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Supreme Court, U.S.
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IN THE

Supreme Court of the United States

NASHUA CORPORATION,

Petitioner,

v.

RICOH COMPANY, LTD., RICOH CORPORATION and RICOH ELECTRONICS, INC.,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED FOR REVIEW

Whether the United States Court of Appeals for the Federal Circuit has vitiated over 100 years of this Court's consistent caselaw (confirmed by Congress in the 1952 Patent Act) by allowing the issuance of second (or "double") patents which are merely obvious (and admittedly nonpatentable) variations over a first patent:

(1) without granting the mandated "intervening rights" protection afforded to members of the public who have relied upon the scope of a first patent to avoid infringement, but who are subsequently faced with an assertion of infringement under a later issued "double patent" which enlarges the scope of the first patent;

(2) without prohibiting a patentee from "recapturing" in the "double patent" material that the patentee had dedicated to the public to gain allowance of the first patent; and

(3) without requiring the public notice mandated under the patent reissue rules, thereby allowing the issuance of "double patents" which have resulted from secret or "submarine" patent applications.

PARTIES TO THE PROCEEDING

The parties to the proceeding are all identified in the caption of this matter. Pursuant to S. Ct. R. 29.6, Petitioner states that it has no parent companies and there are no publicly held companies that own 10% or more of the stock of the Petitioner.

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OPINIONS BELOW

The opinion of the United States Court of Appeals for the Federal Circuit, dated February 18, 1999, which is presently available at 1999 U.S. App. LEXIS 2672, is reproduced in the annexed Appendix to this petition ("App.") commencing at page 1a. The Memorandum Decision of the United States District Court for the District of New Hampshire, dated March 31, 1997, is reported at 947 F. Supp. 21 (D.N.H. 1997) and is reproduced in the Appendix commencing at page 15a.

STATEMENT OF JURISDICTION

Nashua Corporation seeks review by this Court of the Federal Circuit's Decision and Judgment entered on February 18, 1999. This Court has jurisdiction to review the Decision and Judgment pursuant to 28 U.S.C. § 1254(1). Moreover, this matter is directed solely to federal questions under the patent statutes, 35 U.S.C. *et seq*.

STATUTES AND RULES INVOLVED

Pursuant to S. Ct. R. 14(f), the relevant texts of 35 U.S.C. §§ 101, 120, 121, 122, 251, 252, 253 and 37 C.F.R. §§ 1.11(b), 1.321(c) are reproduced in the Appendix at pages to 73a to 78a.

STATEMENT OF THE CASE

The United States Court of Appeals for the Federal Circuit affirmed the decision of the New Hampshire District Court upholding the validity of the pertinent claims of U.S. Patent No. 4,878,603 ["the '603 patent"] and denying the

application of intervening rights. Accordingly, petitioner Nashua Corporation was found to have infringed the '603 patent.

1. Introduction And Reasons For Allowance of The Writ

At issue in this action is fundamental patent law and the protection afforded to the public by this Court and Congress to avoid an unfair abuse of the monopoly granted by a patent. The grant of certiorari is necessary and appropriate to correct the abuses allowed by the Federal Circuit when it implemented a procedure permitting the issuance of thousands of "double patents" without the public protection mandated by this Court and Congress.

One basic concept at issue here and previously articulated by this Court is that a patentee may only obtain *one* patent for *one* invention. In other words, a patentee should not be granted "double patents".

Another basic principle of patent law is that a patentee may only broaden the scope or coverage of an *issued* patent under the strict "reissue" guidelines that protect the public from dilatory changes in a patent. This public protection requires, *inter alia*: (1) timely notice to the public that these changes are being requested by a patentee; (2) a maximum time limit of two years during which the scope of an issued patent may be broadened; (3) the avoidance of a patentee's recapturing in a later patent subject matter or scope that was surrendered in a first patent to gain allowance from the Patent Office; and (4) the application of "intervening rights" that protect those members of the public who have developed non-infringing products in reliance upon the

scope of a first issued patent only to find themselves purportedly infringing a later issued "double patent" based on a secret or "submarine" patent application.

Despite the aforementioned protection accorded to the public by this Court and Congress, the Federal Circuit has circumvented these mandates by (1) allowing the issuance of "double patents" for admittedly nonpatentable obvious variations over a first patent; and (2) denying the application of intervening rights, public notice and the proscription against recapturing subject matter previously dedicated to the public. Thus, the Federal Circuit has promulgated an end run which conflicts with the intent of this Court, Congress and other circuits.

Central to these issues, and discussed herein, is the fact that the "double patent" created by the Federal Circuit and its predecessor court is *identical* in concept and effect to the "reissue" of an original patent under 35 U.S.C. § 251.

As discussed below, the facts of this case particularly highlight the abuse of the patent system that has resulted from the Federal Circuit's action.[1]

2. The Parties

Respondents [collectively, "Ricoh"] are a group of related multinational manufacturers and vendors of various consumer and business products, importantly here, plain

1. Although the issues presented herein were fully briefed (with extensive case and statutory support) it is difficult to discern from the Federal Circuit's per curiam opinion why precedent, statutory law, and the availability of equitable power were either distinguished or ignored, especially with respect to the prohibition against the "recapture" of material previously dedicated to the public.

paper office copiers and toner replacement cartridges for those copiers. Petitioner Nashua, a New Hampshire-based corporation, produces a range of office supply consumable products, including replacement toner cartridges which compete with those offered by Ricoh.

3. The Parent '730 Patent Application

Ricoh's '603 patent-in-suit covers a replacement toner cartridge, i.e., a plastic bottle filled with black toner powder which attaches to Ricoh plain paper office copiers. The '603 patent resulted from a continuation application which in turn resulted from a prior continuation application of an original application that issued as parent Patent No. 4,611,730 ["the '730 patent"].[2] All three applications in the trilogy had identical technical descriptions and drawings. The first application, which eventually issued as the parent '730 patent, was rejected as unpatentable over the cited prior art. In order to convince the Patent Examiner to allow the '730 patent, Ricoh's patent counsel narrowed the scope of the '730 patent claims by including two limitations to

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2. A continuation patent application (35 U.S.C. § 120) is a successor application to one or more earlier parent applications and receives the effective filing date of the earliest filed parent. To gain the benefit of the earliest filing date, no new subject matter may be added and each application must be filed before the abandonment or issuance of each preceding application. Continuations are a way of obtaining further consideration by the Patent Office once a parent or preceding application has been finally rejected by the Patent Office or if there is more than one invention in an application. Separate patents for separate inventions stemming from a common patent application are known as "divisional" patents. 35 U.S.C. § 121.

distinguish over the cited references.[3] The '730 patent issued with these limitations on the scope of its coverage. Prior to the issuance of the '730 patent, and without knowledge that this application had been filed, Nashua developed and marketed its own toner cartridge for use in Ricoh photocopiers.

Ricoh subsequently brought the issuance of the '730 patent to Nashua's attention. Thereafter, Nashua promptly gave the issued '730 patent to its patent attorney who reviewed the scope of this patent by considering the '730 claims in light of the patent's documented history in the Patent Office. Nashua's patent counsel opined that elimination of the internal spiral rib and/or the external gear would conclusively avoid infringement — both literally and under the doctrine of file wrapper estoppel. (App. at 79a-85a). Nashua immediately adopted this advice and eliminated both the spiral rib and removable gear. On July 8, 1987, Nashua voluntary provided a sample of its redesigned non-infringing cartridge to Ricoh. Nashua did everything it was supposed to do to avoid infringement.

4. The '603 Patent-In-Suit And The Earlier "Dummy" Application

Prior to issuance of the '730 patent, Ricoh filed what its own witness called a "dummy" continuation patent application to serve as a place holder. Since this was a continuation application, it was not disclosed to the public

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3. The limitations added to the '730 claims by amendment to overcome prior art were an *interior spiral rib* to force toner out of the cartridge as the cartridge was rotated, and an external *removable* gear which facilitated rotation of the toner bottle when in use to dispense toner.

and remained secret until the later issuance of another patent. 35 U.S.C. §§ 120, 122.

Having seen the redesigned Nashua cartridge, and understanding that the '730 patent would be of no use against the new cartridge, Ricoh secretly filed the application leading to the '603 patent-in-suit on April 8, 1988. That application eliminated from its claims both the spiral rib and the removable external gear limitations, thereby broadening the scope of the '730 patent through the later filed continuation application which subsequently issued as the '603 patent-in-suit.[4]

The Patent Office initially rejected the '603 application as "double patenting", i.e., rejected the application as claiming material not patentably distinct from the claims Ricoh had already obtained in the '730 patent.[5] Please see

4. Ricoh eventually acknowledged that Nashua had properly designed around the '730 patent by eliminating the spiral rib and the removable external gear. Ricoh, therefore, dismissed with prejudice its infringement claims under the '730 patent.

Counsel for Ricoh also acknowledged during oral argument before the Federal Circuit that the internal spiral and external gear arising during prosecution of the parent '730 patent represented file wrapper estoppel (in other words, material added to secure patent issuance and, therefore, elements required for any infringement), yet, counsel argued that this estoppel was eliminated when Ricoh obtained the broader claims in it's '603 continuation patent.

5. In his rejection, dated September 16, 1988, paper No. 5, the Patent Examiner stated:

> Claims 19-32 [which became the issued claims in suit] are rejected under the judicially created doctrine of

(Cont'd)

35 U.S.C. § 101 which permits only one patent to issue on any given subject. *See also Miller v. Eagle Mfg. Co.*, 151 U.S. 186, 197 (1894). Ricoh overcame this rejection via a practice established in 1964 by the Court of Customs and Patent Appeals [the "CCPA"] by filing a "terminal disclaimer" to have the '603 patent expire on the same date as the earlier-issued '730 parent patent and agreeing that ownership of the '730 and '603 patents could not be separated. The '603 patent issued and this lawsuit and its proceedings followed thereafter. We present on the following page a time line which summarizes this prosecution.

5. What Ricoh Impermissibly Achieved

By using this procedure of obtaining broadened patent coverage through a "double patent" instead of following the statutorily appropriate procedure of obtaining a "reissue" of its original '730 patent:

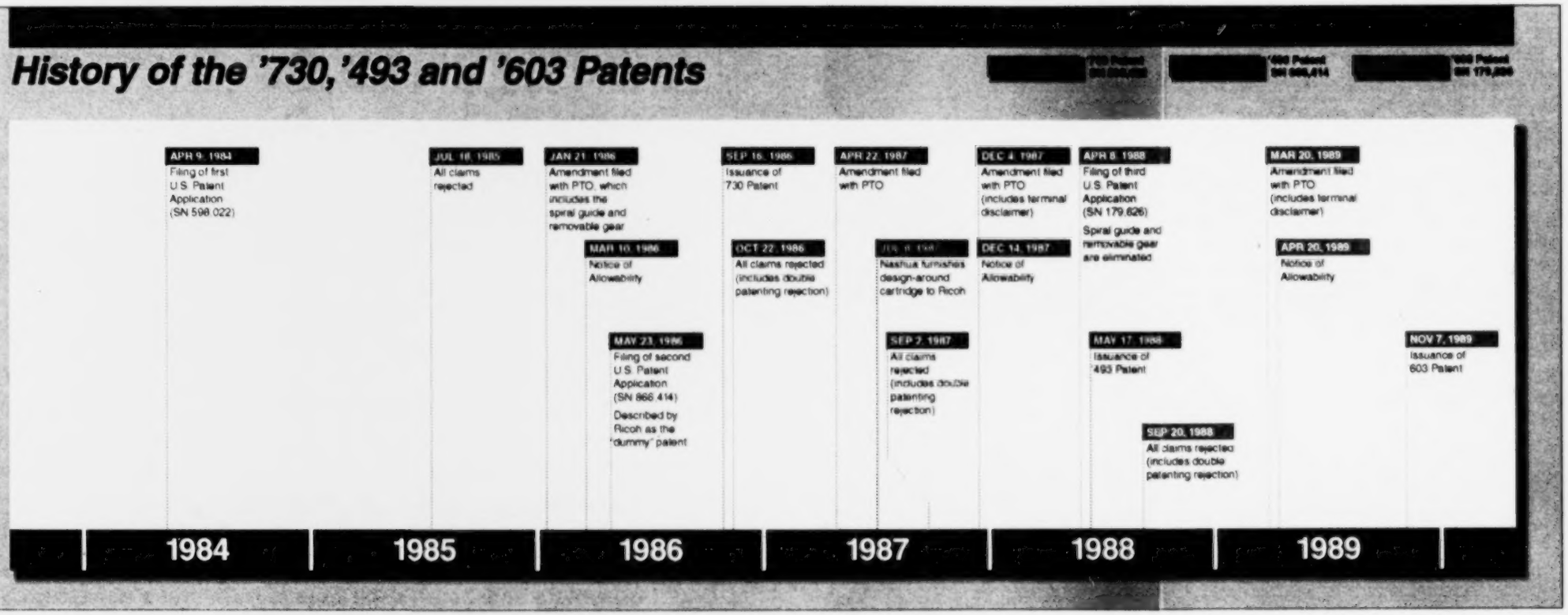
a. Ricoh avoided the well established rule which prohibits a patentee from subsequently recapturing patent scope canceled in an earlier related patent application to overcome prior art rejections. As the matter was put in *Schriber-Schroth Co. v.*

(Cont'd)

> obviousness-type double patenting as being unpatentable over the prior invention as set forth in claims 1 to 20 . . . of U.S. Patent Nos. 4, 611,730. . . . Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the instant application are merely broader in scope and fail to define over the previously claimed subject matter on the basis of obviousness.

Ricoh accepted this rejection and filed a "terminal disclaimer" to obtain issuance of its '603 double patent.

History of the '730, '493 and '603 Patents


APR 9, 1984
Filing of first U.S. Patent Application (SN 598,022)
JUL 18, 1985
All claims rejected
JAN 21, 1986
Amendment filed with PTO, which includes the spiral guide and removable gear
MAR 10, 1986
Notice of Allowability
MAY 23, 1986
Filing of second U.S. Patent Application (SN 866,414)
Described by Ricoh as the "dummy" patent
SEP 16, 1986
Issuance of '730 Patent
OCT 22, 1986
All claims rejected (includes double patenting rejection)
APR 22, 1987
Amendment filed with PTO
JUL 8, 1987
Nashua furnishes design-around cartridge to Ricoh
SEP 2, 1987
All claims rejected (includes double patenting rejection)
DEC 4, 1987
Amendment filed with PTO (includes terminal disclaimer)
DEC 14, 1987
Notice of Allowability
APR 8, 1988
Filing of third U.S. Patent Application (SN 179,626)
Spiral guide and removable gear are eliminated
MAY 17, 1988
Issuance of '493 Patent
SEP 20, 1988
All claims rejected (includes double patenting rejection)
MAR 20, 1989
Amendment filed with PTO (includes terminal disclaimer)
APR 20, 1989
Notice of Allowability
NOV 7, 1989
Issuance of '603 Patent
1984
1985
1986
1987
1988
1989

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Cleveland Trust Co., 311 U.S. 211, 221 (1940) in the context of an application for a reissue patent:

> [t]he injurious consequences to the public and to inventors and patent applicants if patentees were thus permitted to revive canceled or rejected claims and restore them to their patents are manifest.[6]

Courts have held that this doctrine of file wrapper estoppel is equally applicable whether a patentee attempts to recapture that which was given up to secure a patent by contending that the claims secured are entitled to broadened construction or *by obtaining a second patent on the subject matter given up.*

b. Ricoh obtained its much delayed submarine '603 patent without providing the public with any notice whatever that broadened claims were being pursued. Yet, the rule is precisely the opposite — and notice is required — where a patentee seeks to broaden its protection via the statutory reissue route. 37 C.F.R. § 1.11(b). Indeed, 35 U.S.C. § 251, 4th par., imposes an outside two year time limit for broadened claims and thus affords the public notice of a patentee's intention to seek such broadened claims no more than two years after the original (in this case, the '730) patent claims issued. In contradiction to the law, the tactic

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6. This sentiment was also stated by the Court in *Graham v. John Deere Co.*, 383 U.S. 1, 33 (1966):

> Claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent.

here is unlimited in time for a patentee's *nunc pro tunc* claims to issue.

c. Ricoh avoided the requirement of a verified showing that the supposed reason for the underclaiming in the parent '730 was "through error without any deceptive intention" — a requirement for claim expansion via the statutory permissible reissue route. 35 U.S.C. § 251. Moreover, even if Ricoh had attempted to reissue the '730 patent under section 251, it could not meet the requirement of "error" since Ricoh intentionally and voluntarily narrowed the scope of the claims by adding the limitation of the spiral rib and internal removable gear limitations to avoid prior art and gain allowance of the '730 patent.

d. Ricoh avoided the intervening rights granted to a competitor who markets goods which do not infringe patent claims as originally issued, but which infringe later issued, broader, reissued claims. This Court, as well as other district and appellate courts, has provided such intervening rights for decades under its general equitable jurisdiction. Please see *Sontag Chain Stores Co. v. National Nut Co.*, 310 U.S. 281, 290 (1940), 4 *Chisum On Patents*, § 15.02[6], [8][c]. Intervening rights became codified years later. 35 U.S.C. § 252. Despite this long history of intervening rights, the Federal Circuit has ruled in its decision here that the equitable and statutory power of courts to grant intervening rights when issued patents are subsequently broadened through the reissue process under 35 U.S.C. § 251 is somehow unavailable for the identical mischief resulting from the broadened claims presented in "double patents" based on continuation applications.

ARGUMENT

I.

IT IS FUNDAMENTAL TO OUR PATENT SYSTEM THAT THE PUBLIC IN GENERAL, AND COMPETITORS IN PARTICULAR, MUST BE ABLE TO RELY UPON THE FINALITY AND CERTAINTY OF ISSUED PATENT CLAIMS

It is a *sine qua non* of our patent system that artisans in the field be able to rely upon issued patent claims to determine that which is patented and thus foreclosed to them, as opposed to that which remains available to practice. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 117 S. Ct. 1040, 1050 (1997), *cf. United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 234-36 (1942). Please see also 35 U.S.C. § 112, first par.; *Vectra Fitness, Inc. v. TNWK Corp.*, 162 F.3d 1379, 1384 (Fed. Cir. 1998). Without this certainty and finality of a patent's scope, a competitor could never safely avoid a patent. Competitors would never know whether a secret "submarine" application is lurking below the surface waiting to be redrafted by a patentee with the competitor's product in hand (such as here). The chilling effect on competition is self-evident.

A. Caselaw And Statutory Regulations Have Provided Explicit Guidelines And Limitations For Dilatory Changes To An Issued Patent

The patent system is not draconian and this Court and Congress have provided a limited method by which a patentee may obtain a second bite at the apple to correct the scope of an issued patent. This procedure is known as

"reissue" and allows the patentee to ask the Patent Office to reissue an original patent, but with broader claims. 35 U.S.C. §§ 251-252. Nonetheless, this Court and Congress were very careful to provide appropriate protection to the public for any harm caused by this dilatory expansion of an issued patent.

Thus, by a combination of common and statutory law, a rigorous set of limitations was imposed on the patentee's claim expansion prerogative. For example:

a. A patentee may not recapture subject matter expressly surrendered to gain allowance of the original patent. *See Leggett v. Avery*, 101 U.S. 256, 259 (1880) and cases cited at 16-17, *infra*;

b. No claim may be broadened unless it is submitted within two years of the issuance of the original patent. *See* 35 U.S.C. § 251.

c. The public must be given immediate notice that the patentee is seeking broadened claims and the public is given immediate access to that application procedure. *See* 37 C.F.R. § 1.11(b);

d. Application of intervening rights must be made available to anyone prejudiced by reliance on the original non-infringed claims. *See* 35 U.S.C. § 252.

B. The Federal Circuit And Its Predecessor Court Have By-Passed The Carefully Crafted Law Controlling The Expansion Of Issued Patents

Subsequent to the promulgation of this Court's directives on the subject at hand and the enactment of reissue law by Congress, the CCPA and its successor, the Federal Circuit, have cobbled together a series of decisions allowing a patentee secretly to seek a broadening of an original patent by obtaining a "double patent" through the continuation process.[7] This method, promulgated without statutory authority and untested by any Supreme Court review, by-passes all of the safeguards provided by the reissue laws.

Before 1964, a patentee who attempted to obtain a second patent with claims broader than those in an issued patent, but not patentably different from those claims, would be rejected for "double patenting" under 35 U.S.C. § 101 which mandates that there be only one patent per one invention. *See Miller v. Eagle Mfg. Co.*, 151 U.S. 186, 197 (1894). This changed with the CCPA's decision in *In re Robeson*, 331 F.2d 610, 613-15 (CCPA 1964) which permitted more than one patent (a "double patent") to issue for claims which were an obvious variation of the invention so long as the patentee gave up any additional patent term which the later patent would have received, i.e., if the patentee filed a "Terminal Disclaimer" for the second patent.

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7. Although Ricoh argues otherwise, we do not challenge here the continuation laws (35 U.S.C. § 120) in general, but the abuse of these laws by the creation of "submarine" "double patents" which are identical in effect to reissue patents but which circumvent the stringent controls and public protection applied to reissues under 35 U.S.C. §§ 251-252.

The CCPA, however, understood in its seminal *Robeson* decision that there might be mischief associated with the multiple patent practice but left those concerns for another day:

> As noted in *Siu*, extension of monopoly is *not the only objection* to double patenting. Others include possible harassment by multiple assignees, inconvenience to the Patent Office, *and the possibility that one might avoid the effect of file wrapper estoppel by filing a second application. We do not minimize those possibilities, but we must decide this case on the facts before us. We are not here confronted by a situation where any abuse of the terminal disclaimer is suggested.* We conclude that on the facts here, the only real objection to granting appellant's application is an extension of the monopoly.

In re Robeson, 331 F.2d at 615 (emphasis added; footnotes omitted).

Another day arrived when the CCPA and the Patent Office required the owner of an earlier issued parent patent and later issued "double patent" to agree that not only must the two patents expire on the same date as the first patent, but also ownership could not be separated. This prevented multiple suits from being filed by different owners of two patents that really should have been one patent. *See* 37 C.F.R. § 1.321(c). As the matter was put in *In re Braithwaite*, 379 F.2d 594, 601 (CCPA 1967) "When a terminal disclaimer causes two patents to expire together, a situation is created *which is tantamount for all practical*

purposes to having all the claims in one patent."[8] (Emphasis added.)

We had hoped that this case would be yet "another day" where the Federal Circuit would provide the additional protection that the CCPA predicted might be needed under a different set of facts. Our case involves, *inter alia*, the matter specifically contemplated by *Robeson* but which that case did not involve, i.e., "the possibility that one might avoid the issue of file wrapper estoppel by filing a second application".

The rule announced by the Federal Circuit in this case effectively eliminates all of the protection which the law has afforded to the identically comparable situation of a reissue. This rule permits a patentee to sandbag the competition by: (1) using a patent continuation procedure; (2) watching how the public develops and markets non-infringing alternatives; and (3) then obtaining a continuation "double patent" which recaptures the material dedicated to (and relied upon by) the public.

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8. Essentially, the CCPA was saying that it made little difference whether a patent was corrected through the reissue process or through a subsequent "double patent" if a terminal disclaimer effectively combined the two patents into one by common expiration dates and ownership. Thus, the later "double patent" obtained through the continuation procedure is a *de facto* "reissue" of the first patent. *Yet the CCPA, and now the Federal Circuit, have failed to provide the corresponding safeguards of the reissue law when this well-established statutory procedure is by-passed by the use of a double patent. Thus the Federal Circuit has avoided all of the reissue protection mandated by this Court and Congress*, and has even ignored its own admonitions in the *Robeson* case.

This is a useful and clever strategy if it is legal, and grants patent owners the ability secretly to seek an expansion of their claims at any time, and at will, so long as they have a submarine application pending for years. This procedure was touted even before the decision in this case. For example, an article of July 14, 1997, published in the National Law Journal, recommends that it is prudent practice to file "a continuation, divisional or a continuation-in-part application for maximizing patent protection" as a place holder to obtain modified claims with which to attack competitors who rely upon issued patents to design non-infringing products. As the article puts it:

> Continuing applications are the "submarine" patents that have become famous in recent years as some patentees have kept applications pending for more than 20 years. Even though an issued patent is being enforced by the patent owner, the continuation patent application still lurks below the surface. Its new claims may then be tailored specifically to an infringer's product, even one that had been specifically designed to avoid the claims of the original patent. Upon grant of the continuation application, the new patent may then be enforced against the competitor.

Yet this practice is contrary to precedent and statutory law, and constitutes an extreme abuse of the patent monopoly in contravention of legal competition.

C. Unlike the Federal Circuit, Other Courts Have Followed The Precedent Set By This Court And Congress

It has long been the law that a reissue cannot be obtained for material surrendered during original patent prosecution — the "recapture" doctrine. *See Mentor Corp. v. Coloplast, Inc.*, 998 F.2d 992 (Fed. Cir. 1993) (deliberate surrender of claim scope during the prosecution of the application for a patent is not "error" as will allow the patentee to obtain that subject matter in reissue). As this Court recognized in *Leggett v. Avery*, 101 U.S. 256, 259 (1880):

> The allowance of claims once formally abandoned by the applicant, in order to get his letters-patent through, is the occasion of immense frauds against the public. It not unfrequently happens that, after an application has been carefully examined and compared with previous inventions, and after the claims which such an examination renders admissible have been settled with the acquiescence of the applicant, he, or his assignee, when the investigation is forgotten and perhaps new officers have been appointed, comes back to the Patent Office, and under the pretense of inadvertence and mistake in the first specification, gets inserted into reissued letters all that had been previously rejected. In this manner, without an appeal, he gets the first decision of the office reversed, steals a march on the public, and on those who before opposed his pretensions (if, indeed, the latter have not been silenced by purchase), and procures a

> valuable monopoly to which he has not the slightest title. We have more than once expressed our disapprobation of this practice.

See also Shepard v. Carrigan, 116 U.S. 593, 597 (1886); *Dobson v. Lees*, 137 U.S. 258, 263-65 (1890); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 221 (1940).

Other courts have prohibited the recapture of dedicated material in situations outside of the reissue context, as when an applicant attempts to claim matter in a continuation application that was abandoned in a prior parent application. *Struthers Patent Corp. v. Nestle Co., Inc.*, 558 F. Supp. 747, 827-30 (D.N.J. 1981); *Transportation Design & Technology Inc. v. General Motors Corp.*, 212 U.S.P.Q. 574, 575 (C.D.Ca. 1980); *C-Thru Prods. Inc. v. Uniflex, Inc.*, 262 F. Supp. 213, 217-18 (E.D.N.Y. 1966), *aff'd*, 397 F.2d 952 (2d Cir. 1968); *In re Jentoft*, 392 F.2d 633, 640-41 (CCPA 1968). For example, the *C-Thru* court invalidated claims on the basis of file wrapper estoppel and double patenting despite a terminal disclaimer — a decision consistent with this Court's precedent but directly contrary to the Federal Circuit's decision in this case.

In support of its contradictory position, the Federal Circuit stated that it has previously blessed the practice of filing continuation applications containing claims broader than those in a parent application in order to encompass a competitor's product. We respectfully disagree that this view is applicable here, as the case cited by the court, *Texas Instruments, Inc. v. United States Int'l Trade Commission*, 871 F.2d 1054, 1065 (Fed. Cir. 1989) does not involve a file wrapper estoppel and recapture which are key elements

of the issue presented in this case. Nor, does it address the intervening rights issue. The Federal Circuit's holding in the present case is directly contrary to the long-line of precedents holding that the effect of a file wrapper estoppel cannot be avoided by filing a second application together with a terminal disclaimer. *See The Sterling Varnish Company v. The Louis Allis Company*, 149 F. Supp 826, 829-30 (E.D. Wis. 1957); *In re Robeson*, 331 F.2d at 615 and cases cited at p. 17, *supra*.

Moreover, Ricoh, the District Court and the Federal Circuit all relied upon the holding in *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 874 (Fed. Cir. 1988) to support the proposition that a patent applicant may draft his or her claims in a continuation application to cover a competitor's product. Yet, we do not question the *Kingsdown* case here because it simply does not address the issue presented. *Kingsdown*: (1) did not involve a first *issued* patent where the public relied on claim scope; (2) did not invoke intervening rights since no first patent issued therein; (3) did not invoke double patenting since, once again, no first patent preceded the patent in suit; and (4) did not invoke claim scope recapture from an issued patent. The case is simply inapplicable.

II.

THE FEDERAL CIRCUIT'S ALLOWANCE OF DOUBLE PATENTS WITHOUT THE APPLICATION OF INTERVENING RIGHTS CONTRAVENES THE PUBLIC PROTECTION PROMULGATED BY THIS COURT AND CONGRESS

The Federal Circuit, as well as Ricoh, argues that intervening rights must be provided by Congress or they do not exist. This is a rather curious assertion since the present problem would not exist if the CCPA had not by-passed the well reasoned reissue laws by allowing the issuance of double patents. The CCPA and Federal Circuit created the present problem in contravention of the carefully crafted protection accorded to the public by this Court and Congress.

Moreover, the position promulgated by the Federal Circuit and Ricoh is contrary to the roots of intervening rights. The reissue provision came into the patent statute in 1832 — but did not include broadened patents. It had been (and as a generality still is) the law that material disclosed but not claimed is public property free for all to use. *Sontag Chain Stores Co. v. National Nut Co.*, 310 U.S. 281, 290, (1940); *In re Fotland*, 779 F.2d 31, 33, (Fed. Cir. 1985), *cert. denied*, 476 U.S. 1183 (1986) ("implied disclaimer"). This changed with the *limited* reissue rights and their concomitant safeguards. When it did, however, the courts were quick to point out "the evils which have grown from the practice [reissues] have assumed large proportions." *Sontag*, 310 U.S. at 293. That "evil" was the recognition that a broadened reissue to cure an error of the patentee should not be " 'at the expense of innocent parties.'

Otherwise, the door is open for gross injustice to alert inventors and baffling uncertainty will hinder orderly development of useful arts." *Sontag*, 310 U.S. at 294. The *Sontag* case authorized and is the progenitor of the *judicially* made intervening rights doctrine which later became codified as 35 U.S.C. § 252. 4 *Chisum on Patents*, § 15.02[6], [8][c].[9]

Ricoh's '603 continuation and terminal disclaimer is identical *in its claim scope broadening effect* on Nashua (and all others) as a reissue patent would have been. Indeed, as we pointed out above, its lack of reissue protection makes it much worse. When Congress again codified the reissue statue (and provided for intervening rights) in the 1952 Patent Act, patentees could not obtain a second patent for their invention (whether the same or obvious variation of the first). It was the C.C.P.A., not Congress, that later opened the door to allow patentees the luxury of obtaining a double patent to by-pass the protection afforded the public against the possible inequity of a reissue.

As predicted by the C.C.P.A., another occasion has now arisen that requires court-made equity to ameliorate a court-made problem. Accordingly, Nashua is entitled to intervening rights for precisely the reasons this relief is afforded for a reissue.

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9. As noted by Chisum:

> In the Twentieth Century, lower court decisions developed the affirmative defense of intervening rights. In the *Sontag* case (1942), the Supreme Court codified and expanded the defense. In the 1952 Act, Congress carried forward prior statutes on reissue and codified for the first time the defense of intervening rights.

III.

THIS COURT HAS ALREADY ANALOGIZED THE REISSUE LAWS WITH CONTINUATION PATENTS

The Federal Circuit has also ignored this Court's prior application of the reissue laws to continuation applications. In *Webster Electric Co. v. Splitdorf Electrical Co.*, 264 U.S. 463 (1924), the Court was faced with the issue of whether the two year limit prohibiting claim expansion in a *reissue* application should be applied to continuation applications such as a "divisional."[10] As stated by the Court:

> Our conclusion, therefore, is that, in cases involving laches, equitable estoppel, or *intervening private or public rights*, the two-year time limit *prima facie* applies to divisional applications, and can only be avoided by proof of special circumstances justifying a longer delay. *In other words, we follow in that respect the analogy furnished by the patent reissue cases.*

Id. at 471 (Emphasis added).

Apparently, the Federal Circuit has not appreciated what was evident to this Court — that the public protection created for the reissue of patents is no less applicable to the issuance of new patents resulting from continuations. This is particularly true here where a "double patent" *is indistinguishable* from a *reissue patent.*

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10. A divisional continuation application is one in which the Patent Office has found that separate patentable subject matter exists so that more than one patent may issue from an original application. 35 U.S.C. § 121. Of course, the situation here is even closer to a reissue since the Patent Office explicitly concluded that the '603 application did not contain separately patentable subject matter. It was, therefore, rejected for double patenting.

CONCLUSION

The Federal Circuit, by virtue of its decision in this case, has undermined fundamental principles of our patent system and public safeguards as enunciated in *Leggett v. Avery*; *Sontag Chain Store Co. v. National Nut Co.*; and 35 U.S.C. §§ 251-252 by improperly allowing a patent owner: (1) to recapture material previously dedicated to the public; (2) to avoid public notice that a double patent having broader claims is being sought; and (3) to avoid the application of intervening rights which were promulgated to protect members of the public who have detrimentally relied on the scope of a first issued patent.

This Court should intervene to reinstate its long standing public protection against dilatory changes in the scope of a patent and enforce statutory law and Congressional intent. The actions of the Federal Circuit have led to a flood of double patents, all without the mandated protection of the reissue laws.

For the above-stated reasons, Nashua respectfully requests that this Court grant its petition for a writ of certiorari and on review, reverse the judgment of the Court of Appeals for the Federal Circuit in this case.

Respectfully submitted,

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APPENDIX

APPENDIX A — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DATED AND DECIDED FEBRUARY 18, 1999

United States Court of Appeals
for the Federal Circuit

97-1344

RICOH COMPANY, LTD., RICOH CORPORATION, and RICOH ELECTRONICS, INC.,

Plaintiffs-Appellees,

v.

NASHUA CORPORATION,

Defendant-Appellant.

DECIDED: February 18, 1999

Before PLAGER, BRYSON, and GAJARSA, *Circuit Judges*.

PER CURIAM.

DECISION

Nashua Corporation (Nashua) appeals from the judgment of the United States District Court for the District of New Hampshire that Nashua literally infringed claims 1 through 4 of U.S. Patent No. 4,878,603 (the '603 patent) assigned to Ricoh Company, Ltd., Ricoh Corporation, and

Ricoh Electronics (collectively Ricoh) and that the '603 patent was not invalid. We *affirm* the district court's conclusions as to infringement and validity of the '603 patent, and reject Nashua's arguments that it is entitled to equitable relief.

BACKGROUND

Ricoh manufactures and markets many different electronic products, including electrophotographic plain paper copiers. Ricoh also manufactures and markets toner cartridges for these copiers through its various subsidiaries. Nashua manufactures and sells toner cartridges and toner for use in Ricoh's copiers and others. Nashua has various agreements with Ricoh and other copier manufacturers allowing Nashua to sell toner cartridges under the Ricoh and other brand names. Nashua also sells generic toner cartridges with no brand name.

On January 9, 1984, Ricoh filed patent application No. 598,022 (the '022 application) for a new type of toner cartridge, which eventually led to the issuance of U.S. Patent No. 4,611,730 (the '730 patent) on September 16, 1986. At the time Ricoh filed the '022 application in 1984, Ricoh and Nashua were parties to a contract which provided that Nashua would distribute Ricoh copiers and toner cartridges worldwide.

Nashua began to offer its own version of a Ricoh toner cartridge in 1985. The Nashua cartridge offered for sale in the United States during 1986-87 contained an internal spiral guide rib on the inner surface of the cartridge as well as a

removable gear ring. At a business meeting between Ricoh and Nashua in 1987, Ricoh informed Nashua of the '730 patent covering various types of toner cartridges. Nashua consulted its patent attorney to determine whether its products infringed the '730 patent. Nashua's attorney advised that, while Nashua may not necessarily infringe the '730 patent for various reasons, Nashua could design around the patent claims by eliminating the removable gear ring and by eliminating the internal spiral guide rib from the Nashua cartridge. Nashua subsequently redesigned its toner cartridge in accordance with these recommendations.

In June 1987, Nashua's representatives met with Ricoh's representatives at which time Nashua explained that it was redesigning its toner cartridge by eliminating the internal spiral rib and redesigning the gear ring to avoid infringing the '730 patent. Later that month, Ricoh asked Nashua to send it a sample of the redesigned product for review. Nashua sent a prototype of the redesigned cartridge shortly thereafter. Nashua continued development of the new redesigned toner cartridge, spending approximately $71,390 in November for new manufacturing molds. Nashua discontinued sales of the spiral walled cartridge and began selling the new toner cartridges in 1988.

Meanwhile, on May 23, 1986, Ricoh filed continuation application No. 866,414 (the '414 application) as a continuation of the '022 application. On April 8, 1988, Ricoh filed continuation application No. 179,626 (the '626 application) as a continuation of the '414 application. The '626 application eventually matured into the '603 patent on November 7, 1989. The claims of the '603 patent

eliminated the limitations of the internal spiral guide rib and the removable gear ring which had limited the '730 patent.

At a meeting between Nashua and Ricoh in February of 1989, before the '603 patent issued, Ricoh notified Nashua of the existence of the '626 application and offered to provide Nashua with a copy of the claims of that application. Nashua refused to review those documents. In early 1990, Nashua and Ricoh terminated their contractual relationship for reasons unrelated to this patent litigation.

In April 1994, Ricoh filed suit against Nashua alleging infringement of the '603 and '730 patents. On November 8, 1994 the U.S. Patent and Trademark Office (PTO) issued reexamination certificates confirming the patentability of claims 1-14 of the '603 patent. The '730 patent was dropped from the present litigation by stipulation of the parties. On March 31, 1997, the United States District Court for the District of New Hampshire found that Nashua's redesigned toner cartridge infringed claims 1-4 of the '603 patent. The district court further found that the '603 patent was not invalid for failure to disclose the best mode and that Ricoh was not barred from recovery under the doctrines of equitable estoppel, intervening rights, or patent misuse. This appeal followed.

DISCUSSION

This court is presented with four issues on appeal. First, Nashua argues that it is entitled to intervening rights for the toner cartridge design developed and marketed during

the pendency of the '626 continuing application. Second, Nashua argues that the doctrine of equitable estoppel precludes a finding of infringement of the '603 patent. Third, Nashua argues that the '603 patent is invalid for failing to disclose the best mode. Finally, Nashua contends that the '603 patent is invalid because it was misused by Ricoh through an unlawful tying arrangement.

A. Intervening Rights

The district court held that Nashua was not entitled to the equitable defense of intervening rights because filing a patent application for the purpose of excluding a competitor's product from the market is expressly permissible. *See Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 874, 9 USPQ2d 1384, 1390 (Fed. Cir. 1988). Stating that the '603 continuation patent complied with "all statutes and regulations," the district court rejected Nashua's contention that Ricoh circumvented the mandates of the reissue statute and therefore Nashua should be entitled to intervening rights.

On appeal, Nashua contends that it is entitled to intervening rights for the products it developed during the pendency of the '626 application because the '603 patent broadened the claims of the '730 patent over two years after the issuance of the parent patent by using a continuation application, thus impermissibly circumventing the statutory mandates of a reissue proceeding.[1]

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1. Reissue of defective patents is governed by 35 U.S.C. §§ 251-56 (1994).

Ricoh responds by stating that, in explicitly granting intervening rights in the context of reissue patents in the Patent Act and not in the context of continuing applications, Congress has at least implicitly rejected the notion that these separate methods of broadening patent claims are to be treated the same. Ricoh also points to the recent amendments to sections 120 and 252 as further evidence that Congress could have provided for intervening rights in the context of continuing applications if it wanted to do so.[2]

We agree with Ricoh. Section 120, governing continuation applications, does not contain any time limit on an applicant seeking broadened claims. In contrast, section 251, governing reissue proceedings, does contain a specific time limit of two years. Moreover, Congress specifically provided for intervening rights in section 252 of the reissue statute, whereas Congress made no such provision for intervening rights in the context of continuation applications. "[A] limit upon continuing applications [*i.e.*, similar to the two-year limit in reissue proceedings] is a matter of policy for Congress, not for us." *In re Hogan*, 559 F.2d 595, 604 n.13, 194 USPQ 527, 536 n.13 (CCPA 1977).[3]

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2. Congress amended 35 U.S.C. § 120 in 1984. *See* Pub. L. No. 98-622, § 104(b), 98 Stat. 3385 (Nov. 8, 1984). Congress amended 35 U.S.C. § 252 in 1994. *See* Pub. L. No. 103-465, § 533(b)(2), 108 Stat. 4988 (Dec. 8, 1994).

3. In 1994, Congress passed the Uruguay Round Agreements Act, Pub. L. No. 103-465, 108 Stat. 4809 (Dec. 8, 1994), which conformed United States law to the April 1994 Uruguay Round

(Cont'd)

In addition, we have recognized the practice of filing continuation applications containing claims broader than those in a parent application, subject to double patenting objections, in order to encompass a competitor's product. *See, e.g., Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 871 F.2d 1054, 1065, 10 USPQ2d 1257, 1265 (Fed. Cir. 1989) (citing *Kingsdown*, 863 F.2d at 874, 9 USPQ2d at 1390). Accordingly, absent congressional indication that intervening rights are to be applied in the context of continuation applications, we reject Nashua's argument that we should judicially adopt equitable safeguards, in contravention of established precedent, when Congress itself has declined to do so.

B. Equitable Estoppel

While equitable estoppel is not limited to a particular factual situation, or subject to simple or hard and fast rules, we have articulated a three-part test to guide courts in determining whether the doctrine of equitable estoppel is to be applied to bar recovery. *See A.C. Aukerman Co. v.*

(Cont'd)

trade negotiations agreement under the General Agreement on Tariffs and Trade on "Trade-Related Aspects of Intellectual Property." In particular, Congress amended 35 U.S.C. § 154 to provide for a patent term of 20 years from the date of the earliest filed priority application, rather than 17 years from the date of issue of the patent. This amendment in effect addressed the perceived problem of so-called "submarine patents," *i.e.*, the use of continuation applications to claim previously disclosed but unclaimed features of an invention many years after the filing of the original patent application.

R.L. Chaides Constr. Co., 960 F.2d 1020, 1041, 22 USPQ2d 1321, 1335-36 (Fed. Cir. 1992) (en banc). First, the alleged infringer must show that the patentee, through misleading conduct, led the alleged infringer to reasonably believe that the patentee did not intend to enforce its patent against the infringer. Second, the alleged infringer must demonstrate reliance on that conduct. Finally, the alleged infringer must be materially prejudiced if the patentee is permitted to enforce its patent against the alleged infringer. *See id.* at 1028, 22 USPQ2d at 1325. In order to prevail, each of these factors must be shown by a preponderance of the evidence. *See id.* at 1045-46, 22 USPQ2d at 1338-39.

The district court held that, even assuming that Ricoh's conduct supported a reasonable inference that it did not intend to enforce its patent claims against Nashua, Nashua did not prove a "causal nexus between Ricoh's delay or misleading conduct and Nashua's decision to go forward with it [sic] smooth-walled cartridges," and thus Nashua failed to satisfy the second prong of the *Aukerman* test. We review the decision of the district court for an abuse of discretion. *See id.* at 1028, 22 USPQ2d at 1325.

Nashua argues that Ricoh's silence following the provision of samples of the redesigned product in June 1987 permits a reasonable inference that Ricoh did not intend to enforce its patent rights against the redesigned cartridges. *See Scholle v. Blackhawk Molding Co.*, 133 F.3d 1469, 1472, 45 USPQ2d 1468, 1471 (Fed. Cir. 1998) (finding that plaintiff patentee was equitably estopped from asserting its patent where the plaintiff had previously made an accusation of patent infringement followed by silence after inspection

of defendant's redesigned product). As a result, Nashua argues that its decision to move forward with production of the redesigned smooth-walled cartridges in November 1988 was made at least in part in reliance on the inference that Ricoh had accepted Nashua's redesign as noninfringing.

The law is clear that a party can be misled by inaction. *See id.*, 45 USPQ2d at 1471; *Aukerman*, 960 F.2d at 1042, 22 USPQ2d at 1336 ("[E]quitable estoppel may arise where, coupled with other factors, a patentee's 'misleading conduct' is essentially misleading inaction."). However, Nashua fails to apprehend the difference between inaction in light of an issued patent, as was the case in *Scholle*, and inaction in light of a pending patent application, as is the case here. The cases Nashua cites involved a patentee's failure to object to a product believed to infringe an *issued patent*, not a pending patent application at issue here. When Nashua disclosed to Ricoh the redesigned cartridge in June 1987, the '603 patent had not issued. Until September 1989, when the '603 patent did issue, Ricoh had no right to object to Nashua's design and cannot now be estopped for failing to speak up. *See Aukerman*, 960 F.2d at 1043, 22 USPQ2d at 1337 ("Silence alone will not create an estoppel unless there was a clear duty to speak . . . .").[4]

Additional interactions between the parties also support the district court's refusal to apply equitable estoppel. Even

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4. We express no opinion on the situation where a patentee makes an affirmative misrepresentation regarding a pending application and the possibility that under such circumstances an estoppel may arise precluding enforcement of any subsequently issued patent.

though it was under no duty to do so, Ricoh disclosed to Nashua in February 1989 the existence of the application from which the '603 patent later issued and even offered to provide Nashua with a copy of the pending claims. Although Nashua was under no obligation to do so, instead of using the opportunity to plan the future course of its products, Nashua refused to review the claims in the application. Also, in September 1992, Ricoh contacted Nashua about the possible infringement of the '603 patent. At that time, Nashua's patent counsel opined that the '603 patent was invalid, and Nashua subsequently proceeded to manufacture and market the redesigned toner cartridge.

Accordingly, the district court did not abuse its discretion by rejecting Nashua's argument that Ricoh was barred from recovery by the doctrine of equitable estoppel.

C. Best Mode

The district court held that Nashua did not show by clear and convincing evidence that the inventors knew that a foam gasket located between the cartridge and the copier was the best mode of practicing the invention, thereby triggering their duty to disclose this mode in the written description of the patent in accordance with 35 U.S.C. § 112, ¶ 1 (1994). The district court found that the inventors thought that a "face seal" was the best mode of practicing the invention, and that the only reason that a foam gasket was used or contemplated was for cost savings during mass production. Moreover, the district court relied on the unrebutted testimony of the inventors that they actually preferred to do without the foam gasket, which could be

done, albeit using more expensive manufacturing techniques. The district court found that, while the commercial embodiment was potentially relevant to what the inventors thought was the best mode, it was more relevant of the best and cheapest mode of manufacturing the cartridge, not necessarily of practicing the invention. We review a district court's finding of whether the patentee has complied with the best mode requirement for clear error. *See Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1535, 3 USPQ2d 1737, 1745 (Fed. Cir. 1987).

Nashua asserts that the inventors knew that insertion of a foam gasket between the cartridge and the copier was necessary to make the invention cost effective to mass produce and that the inventors also knew that mass production was critical to any type of use of the invention. The failure to disclose the foam gasket in the written descriptions of the '730 and '603 patents, according to Nashua, violates the best mode requirement of 35 U.S.C. § 112, ¶ 1.

The inventor's unrebutted testimony was that the preferred method of practicing the invention was to use a face seal only. The inventors further testified that a foam gasket was used only to reduce the manufacturing cost of carefully molding the cartridge at lower tolerances. The best mode requirement does not require that every mode for producing the patented invention be disclosed. Nor does it require disclosure of the best method of mass producing the invention. *See Christianson v. Colt Indus. Corp.*, 822 F.2d 1544, 1563, 3 USPQ2d 1241, 1255-56 (Fed. Cir. 1987). The inventor is only required to disclose his or her own

best mode contemplated of *practicing* the claimed invention at the time the application for the patent was filed. *See United States Gypsum Co. v. National Gypsum Co.*, 74 F.3d 1209, 1212, 37 USPQ2d 1388, 1390 (Fed. Cir. 1996). To require disclosure of methods of mass production as advocated by Nashua would "turn a patent specification into a detailed production schedule, which is not its function." *Wahl Instruments, Inc. v. Acvious, Inc.*, 950 F.2d 1575, 1581, 21 USPQ2d 1123, 1128 (Fed. Cir. 1991). We therefore cannot say that the district court's finding that the inventors contemplated the best mode of the invention to operate with a face seal rather than a foam gasket constitutes clear error.

D. Misuse

Nashua finally argues that the '603 patent is unenforceable because Ricoh misused the patent to effect an illegal tying scheme. Specifically, Nashua alleges that Ricoh conditioned the sale of patented toner cartridges on the purchase of non-patented toner within the cartridges. Nashua further alleges that Ricoh conditioned the sale of patented toner cartridges on an agreement not to purchase, use, or sell the products of a competitor.

"[T]he essential characteristic of an invalid tying arrangement lies in the seller's exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms." *Jefferson Parish Hosp. v. Hyde*, 466 U.S. 2, 12 (1984). "[A] tying arrangement cannot exist unless two separate product markets have been linked." *Id.* at 21. In

the context of patent misuse, "the nature of the claimed invention [is] the basis for determining whether a product is a necessary concomitant of the invention or an entirely separate product." *Senza-Gel Corp. v. Seiffhart*, 803 F.2d 661, 670 n.14, 231 USPQ 363, 370 n.14 (Fed. Cir. 1986). The district court held that Nashua's tying claim failed because Nashua could not show that unpatented bulk toner and the patented cartridges could be sold separately. The district court pointed to the fact that toner is not only explicitly contemplated in the claims of the patent, but also a practical necessity in selling toner cartridges. Based on the evidence presented, the district court did not clearly err in finding that Nashua had failed to demonstrate that the two products were "separate," thus failing to establish an unlawful tying arrangement constituting misuse of the '603 patent.

Nashua also contends that Ricoh conditioned the sale of its patented toner cartridge on an agreement not to purchase, use, or sell the products of a competitor. In support, Nashua points to sales agreements between Ricoh and its dealers known as the Sole Source Blanket Pricing Agreement (BPA) or the Carton Quantity Contract Agreement (CQC). The BPA offers Ricoh products to its sole source dealers at a lower price than it does its non-sole source customers. The CQC offers discounts to those customers who agree to buy a specified minimum quantity. The district court found that neither the BPA nor the CQC constituted a refusal to sell toner cartridges to those unwilling to enter into these agreements. The district court also found that there was no evidence to show that Ricoh ever refused to sell to a buyer who also purchased a

competitor's products. The district court found that these agreements were no more than a savvy marketing scheme designed to generate savings from shipping in large quantities at regular intervals. The record does not disclose any conditioning of the type Nashua suggests. Thus, we agree with the district court that Nashua has not met its burden of proving misuse of the '603 patent.

CONCLUSION

For the foregoing reasons, the judgment of the district court is affirmed.

APPENDIX B — MEMORANDUM DECISION OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW HAMPSHIRE DATED AND FILED MARCH 31, 1997

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW HAMPSHIRE

Civil No. 94-163-M

Ricoh Company, Ltd.; Ricoh Corporation; and Ricoh Electronics, Inc.,

Plaintiffs,

v.

Nashua Corporation,

Defendant.

MEMORANDUM DECISION

This is a patent infringement action in which plaintiffs, Ricoh Company Ltd. ("Ricoh Ltd."), Ricoh Corporation ("Ricoh Corp."), and Ricoh Electronics, Inc. ("REI") (collectively "Ricoh"), assert that Nashua Corporation ("Nashua") has infringed U.S. Patent No. 4,878,603 (the " '603 Patent") by manufacturing and selling certain toner cartridges used in Ricoh photocopiers. In its complaint, Ricoh also asserts that Nashua has infringed U.S. Patent No. 4,611,730 (the " '730 Patent"). The parties have stipulated, however, to the withdrawal of Ricoh's claim for infringement of the '730 Patent.

Appendix B

In defense Nashua argues: (1) that the Patent-in-Suit ('603) is invalid and has not been infringed; (2) that Ricoh's right to recovery is barred by the doctrines of laches and equitable estoppel; and (3) that Ricoh has misused its control over the '603 Patent.

I. FACTUAL BACKGROUND

A brief review of the factual background, the parties, the technology at issue, and the relevant patents, products, and events may be helpful in putting the issues in context. Unless otherwise noted, the facts are taken directly from the parties' Joint Statement of Undisputed Facts ("Jt. Facts").

A. The Parties

Plaintiff Ricoh Ltd. is a Tokyo-based corporation that manufactures and sells electronic products, including electrophotographic plain paper copiers ("Ricoh Copiers"). Plaintiff Ricoh Corp. is a distributor of Ricoh Copiers and related supplies in the United States. Ricoh Corp.'s principal place of business is located in West Caldwell, New Jersey. Plaintiff REI is a wholly-owned subsidiary of Ricoh, Ltd. and Ricoh Corp. REI manufactures nearly all of the photocopier toners and developers that Ricoh Corp. sells and all of the toner and toner cartridges involved in this suit. When Ricoh Corp. purchases the Ricoh Toner Cartridges from REI they are already assembled and filled with toner. Ricoh Corp. then sells the assembled and filled cartridges to its customers.

Appendix B

Defendant Nashua, a Delaware corporation having its principal place of business in Nashua, New Hampshire, manufactures and sells a variety of commercial products, including toner cartridges and toner for use in photocopiers made by a variety of copier manufacturers. Nashua sells its toner cartridges under the Nashua brand label, and under labels bearing the brand names of Nashua's customers, and under generic labels with no brand name.

B. The Technology

Ricoh alleges that Nashua has infringed Ricoh's '603 Patent, which describes a toner delivery system, including a toner cartridge. Generally speaking, a photocopier takes a picture of a document by exposing a photoreceptor drum to reflected light from the document. The reflected light, in turn, charges corresponding points on the drum to create a charge pattern duplicating the document. The charge pattern attracts toner particles which are transported by carrier beads. The toner is transferred to a sheet of plain paper, and the paper with toner is heated to fuse the toner to the paper. The resulting photocopy is then ejected from the photocopier. When the copier is in use, toner is continuously depleted, and when exhausted must be replaced. Replacement toner for copiers is commonly offered in containers or cartridges of different shapes and sizes. The cartridges are generally installed within the copier by the end-user, and replaced with a new container or cartridge as needed.

Ricoh Corp. sells both a Ricoh Type 5000 Toner Cartridge, which is offered for use in the Ricoh 5000 Series

Copiers, and a Ricoh Type 670 Toner Cartridge, which is offered for use in the Ricoh 6750 Copier (the Ricoh Type 5000 Toner Cartridge and the Ricoh Type 670 Toner Cartridge, taken together, are referred to as the "Ricoh Toner Cartridges"). Nashua sells its Nashua NT-50 Toner Cartridges for use in the Ricoh 5000 Series Copiers. Nashua also sells a Nashua NT-6750 Toner Cartridge for use in the Ricoh 6750 Copier (the Nashua NT-50 Toner Cartridges and the Nashua NT-6750 Toner Cartridges, taken together, are referred to as the "Nashua Toner Cartridges"). Nashua has been selling Nashua Toner Cartridges continuously since November 7, 1989, the date on which the '603 Patent issued. (Pl. Exs. 90A & 92, Nashua Sales Records.) Both Ricoh and Nashua toner cartridges hold toner particles and, when installed in appropriate copiers, perform a toner delivery function.

C. The Patents and Product Development

From 1982 through 1983, Ricoh Ltd. began to develop its 5000 series photocopiers and related toner cartridge. Masumi Ikesue and Takashi Ikeda, two Ricoh employees, worked on the 5000 series photocopier project and designed the cartridge to be used in those photocopiers. After Ikesue and Ikeda considered a number of cartridge designs, Ricoh prepared and filed a Japanese patent application, No. 59-1729, on January 9, 1984, in order to patent the Ricoh Type 5000 Toner Cartridge. On April 9, 1984, Ricoh Ltd. filed the first (Serial No. 598,022) of its Untied States patent applications claiming priority as of the date of Japanese patent application 59-1729. The United States application eventually led to issuance of the '730 Patent to Ricoh Ltd. on September 16, 1986. (Pl. Ex. 11, '730 Patent.)

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At the time Ricoh applied for the '730 Patent in 1984, Ricoh and Nashua were parties to a contractual relationship, under the terms of which Nashua, through its Office Systems Division, distributed Ricoh Copiers and Ricoh Copier Supplies throughout the world, excluding the United States and Japan. Due to that contractual relationship, Nashua's annual purchases from Ricoh totaled between $100 million to $200 million during the 1980's.

Nashua began offering one version of the Nashua Toner Cartridge (for use in the Ricoh 5000 Series Copier) for sale in the United States in the spring of 1985. A Nashua product list dated May 21, 1985, discloses that Nashua was offering this cartridge to its dealers. Ricoh obtained a copy of the product list in August of 1985. Nashua has been actually manufacturing and selling toner cartridges for use in the Ricoh 5000 Series Copiers since at least 1986. Throughout 1986 and 1987, the Nashua NT-50 Toner Cartridge was sold in the United States, through Nashua's Products Division, which was headed by John Barnes. The Nashua NT-50 Toner Cartridge offered for sale in the United States during the 1986-1987 period contained an internal spiral guide rib on the inner surface of the cartridge, as well as a removable gear ring.

The Nashua Systems Division was headed, in 1987, by Eric N. Birch. Takayoshi Matsueda headed Ricoh Ltd.'s Reprographics Division. Representatives of the Nashua Systems Division and Ricoh Ltd.'s Reprographics Division held face to face business meetings with each other several times each year. In March of 1987, at a business meeting between Mr. Birch and Mr. Matsueda, Ricoh first informed

Nashua of certain Ricoh patents. On March 30, 1987, Mr. Birch sent a facsimile to Mr. Matsueda stating, in part: "I will personally investigate the problems with France, Egypt, and India as well as the USA patent situation and discuss these with you next time." On March 31, 1987, Mr. Matsueda confirmed, by facsimile, receipt of Mr. Birch's facsimile of the previous day. In his facsimile, Mr. Matsueda stated, "First of all, I appreciate your personal attention on such issues as USA patents, India, Egypt and France. Because, each single issue is, in itself, very serious to each of the departments, and they call for immediate solution."

At or about this time, Nashua asked its outside patent counsel, James E. Cockfield, Esq., to review and comment on Ricoh's '730 Patent. By letter dated April 7, 1987, Nashua received the following advice from Attorney Cockfield:

> 1. While an argument certainly can be made to the effect that the patent is not infringed because main claim 1 calls for a certain "snugly-fitting" relationship between a removable gear ring and a toner body, a very real issue remains concerning possible liability arising under the doctrine of equivalence; and
>
> 2. This patent, in its present form, could be avoided by eliminating the feature which induced the Examiner to allow the case, i.e. the "removable" gear tooth member called for in main claim 1. To be on the safe side, it would also be prudent to eliminate the spiral indentation

> formed on the cartridge body, so as to dispose of another claim feature, i.e. the recited "spiral guide rib."

(D. Ex. 143, April 7, 1987 Letter.)

After receiving Attorney Cockfield's recommendations, Nashua redesigned its Nashua NT-50 Toner Cartridge. The redesigned cartridge contained no spiral guide ribs on the inner surface of the cartridge. Nashua also redesigned the manner in which the gear ring mated with the cartridge.

On or about June 17, 1987, Nashua representatives, including John Barnes, attended a business meeting in New Hampshire with representatives of Ricoh, including Mr. Matsueda. At that meeting, Nashua reported to Ricoh that Nashua intended to modify the design of the Nashua NT-50 Toner Cartridge by eliminating the internal spiral guide rib and by fixing the gear to the cartridge body, thereby eliminating the removable feature. Nashua also stated that it did not yet have a response regarding another patent issue that Ricoh had raised (related to the formulation of a certain developer and not at issue in this suit) but that such a response would be forthcoming.

By letter dated June 29, 1987, Ricoh asked Nashua to send a sample of its redesigned cartridge to H. Tatsumi, Ricoh's patent expert, for review. In the same letter, Ricoh asked Nashua to propose convenient dates for a "patent meeting" between the two companies. As confirmed by letter dated July 8, 1987, John Barnes of Nashua sent to Mr. Tatsumi a prototype of the modified Nashua NT-50 Toner Cartridge. In that letter, Mr. Barnes stated, in part:

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In regard to the toner cartridge patent issue, to follow up on your request, I am sending to you, via Purolator, both Nashua's original toner cartridge and the redesigned one. While our patent people indicate to us that the Ikesue patent (the '730 Patent) is not infringed by our product, to eliminate even the chance of disagreement, we have created a cartridge which eliminates the removable gear ring and spiral indentation characterizing the cartridge in that patent.

Our patent counsel continue to research the toner patent issue and we will get back to you on this subject in the very near future.

On July 10, 1987, Mr. Matsueda responded:

I received copy of your letter of July 8, 1987, to Mr. Tatsumi and thank you very much for sending toner cartridges. We will get back to you soon after finishing the examination of those cartridges.

Concerning the toner patent issue, we are hoping to get your reply in July.

We will very much appreciate it if you could tell us when we can expect to receive it.

In order to arrange the schedule of our patent group, we would like to have this information urgently.

Thank you very much for your assistance.

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On July 17, 1987, Mr. Matsueda again wrote to Barnes at Nashua, stating in part:

> I am pleased to hear that Mr. Tatsumi of Ricoh NJ received Nashua's new sample toner bottles. Thank you very much.
>
> I now wonder if you have come to be ready to have a patent meeting with Mr. Tatsumi and Ricoh's patent attorney. Please advise me of your convenient dates.
>
> I also recollect that, at the June NH meeting, you showed your willingness to consider a possible-cooperation with Ricoh in the toner business. Have you had any positive thoughts on this?

On July 23, 1987, Mr. Barnes responded, stating:

> I am in receipt of your facsimiles inquiring about the status of our evaluation of Ricoh's *Inoue et al* patent [the Ricoh Developer Patent], brought to Mr. Birch's attention at a recent meeting. Our patent attorneys have advised that the patent is unenforceable against Nashua because of the relevant prior art believed to have been available to Ricoh at the time the U.S. patent application was filed. Consequently, I see no need to meet with Mr. Tatsumi of Ricoh of America and his patent counsel.

(emphasis in original). Mr. Barnes' letter did not mention the '730 Patent or the smooth-walled NT-50 cartridge referenced in Mr. Matsueda's letter of July 17. (Pl. Ex. 58, July 23, 1987 Letter.)

By August 1987, Nashua was testing a prototype of its smooth-walled cartridge, and in September 1987, Nashua obtained quotes on molds for the cartridge. (Pl. Ex. 124, Sept. 30, 1987 Memo.) In November 1987, Nashua initiated an internal appropriation request in the amount of $71,390 to obtain new manufacturing molds for its smooth-walled Nashua NT-50 Toner Cartridge. During the first half of 1988, Nashua began selling the smooth-walled Nashua NT-50 Toner Cartridge to some of its customers. During a portion of 1988, Nashua continued to make and sell both the spiral-walled Nashua NT-50 Toner Cartridges and the smooth-walled Nashua NT-50 Toner Cartridges. Nashua discontinued sale of the spiral-walled NT-50 Toner Cartridges in 1988.

On April 8, 1988, Ricoh filed U.S. Patent Application No. 179,626 (the '626 Application"), which eventually issued as the '603 Patent on November 7, 1989. (Pl. Ex. 8, '603 Patent.) Although the '626 Application did not claim either the spiral guide rib or a removable gear ring, Ricoh asserted that this application was a continuation of U.S. Patent Application No. 866,414 and Application No. 598,022 (the application that became the '730 Patent). On September 20, 1988, the United States Patent and Trademark Office (the "PTO") issued a first Office Action on Ricoh's '626 Application (the "First Office Action"). (Pl. Ex. 9, '603 File Wrapper.) In the First Office Action, the Patent

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Examiner rejected all pending claims (claims 19-32 of the application) for two specific reasons. The Patent Examiner stated, in part:

> 2. Claims 19 to 32 are *rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the prior invention as set forth in claims 1 to 20, 1 to 3 and 1 to 13 of U.S. patent nos. 4,611,730*; 4,641,945; and 4,744,493. Although the conflicting claims are not identical, *they are not patentably distinct from each other* because the claims in the instant application are merely broader in scope and fail to define over the previously claimed subject matter on the basis of obviousness.
>
> 3. The obviousness-type double patenting rejection is a judicially established doctrine based upon public policy and is primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinct from claims in a first patent. In re Vogel, 164 USPQ 619 (CCPA 1970). A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) would overcome an actual or provisional rejection on this ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

4. Claims 19 to 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19, the claimed rotational and sealing engagement is inferentially claimed and renders the claim indefinite. The following additions would overcome this rejection:

line 16 after "within" insert — and relative to — ;

line 20 after "body" insert — for rotatably driving said cartridge — .

In claim 26, the relative movement between the claimed elements is not positively set forth which renders the claim indefinite. The following addition would overcome this rejection;

line 24 after "axis" insert — whereby said cartridge rotates relative to said cap shaped receptacle — .

(Pl. Ex. 9, '603 File Wrapper (emphasis added).)

On October 24, 1988, Mr. Matsueda of Ricoh and Mr. Birch of Nashua met in Boston and Mr. Matsueda gave Mr. Birch a copy of the '730 Patent and raised the issue of Nashua's possible infringement. (Pl. Exs. 61, 61A, 63.) On

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October 25, 1988, Steven Caldeira of Nashua wrote a memorandum to Nashua's in-house counsel, Paul Buffum, stating:

> Please find attached copies of two Ricoh patents pertaining to developer and cartridge patents. Ricoh has asked for our comments (OPD) as to whether we are violating these patents. Please let me know.

On or about October 26, 1988, Mr. Buffum sent to Attorney Cockfield, Nashua's outside patent counsel, a copy of Mr. Caldeira's October 25, 1988, memorandum. On or before November 11, 1988, Nashua decided to discard all of the spiral-walled Nashua NT-50 Toner Cartridges in its inventory. Nashua continued, however, to sell the smooth-walled Nashua NT-50 Toner Cartridges.

On December 5, 1988, Mr. Matsueda wrote to Mr. Birch stating:

> I believe that you will come back to us with a [conclusion] as to our U.S. patents for NASHUA 7150 Toner [Bottle] and 4100 Developer based on the documents we handed over to you in Boston, Octo[b]er 24.
>
> I will appreciate it if you could pass on your report to Mr. Yuasa and Mr. Mizutani who are going to have a meeting with you on December 5th and 6th.

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("Nashua 7150" is a product code that Nashua uses to refer to the NT-50 Toner Cartridge.) On December 5, 1988, Mr. Birch responded to Mr. Matsueda's letter of that same date as follows:

> I know Nashua's Office Products Division has been studying the patents I passed to them at your request. I will meet with them today to have some information on the status of their thinking to pass to Messrs. Yuasa and Mizutani — tomorrow.

On December 15, 1988, Mr. Birch wrote to Mr. Matsueda, stating, in part:

> During our companies [sic] meetings in both Boston, Massachusetts and Fairfield, New Jersey, I discussed Nashua's thoughts on the toner bottle and developer patents presented to me by yourself.
>
> I recognize Ricoh's concerns and therefore, it is my opinion that we should get the appropriate and most knowledgeable people from each of our companies together to discuss this matter; as I prefer to have Nashua's Office Systems Division concentrate its efforts to increase market share.
>
> In this light, I have had discussions with my colleague, Mr. John Barnes, Vice President of Nashua Corporation's Domestic Office Products Division. He has agreed to meet with whomever you suggest, at a time and place of their convenience.

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On December 19, 1988, Mr. Hisao Yuasa of Ricoh, wrote to Nashua, stating:

> I like first of all to thank you for the times you and your staffs spent with us, and it was indeed the great pleasure for me to have discussed several important topics for mutual interest.
>
> Secondly, as to Ricoh's US patent issue discussed in your December 15 fax, to the attention of Mr. Matsueda, we were expecting to hear Nashua's explanation on whether or not it manufactures products which may infringe Ricoh's patents, and on how Nashua intend [sic] to settle this issue in the future. Since you think Mr. Barnes is the appropriate person to discuss first of all, we are prepared to do so. Let us propose the time and place sometime in early January.

Nashua and Ricoh agreed to meet on February 2, 1989.

The February 2, 1989, meeting was held at the offices of Lahive & Cockfield, Nashua's outside patent counsel. Mr. Yuasa and Mr. Tatsumi represented Ricoh, together with Ricoh's outside patent counsel, Norman Oblon. John Barnes, William Price, and Steven Caldeira of Nashua's Products Division represented Nashua, together with Nashua's in-house counsel, Paul Buffum, and outside patent counsel, Mr. Cockfield. At the meeting, Ricoh first learned that Nashua had launched the smooth-walled NT-50. (Price, Day 5 (a.m.) at 101.) Although the '603 Patent had

not yet issued, Ricoh disclosed the existence of the '626 Application and offered to provide Nashua with a copy of the continuation patent's claims. Mr. Cockfield declined to look at documents relating to the pending application citing the confidential nature of pending applications. (Cockfield, Day 6 (p.m.) at 29-30.)

On March 20, 1989, Ricoh filed a response to the First Office Action with the PTO. The response included an Assignment and Terminal Disclaimer of Assignee in compliance with 37 C.F.R. 1.321(b), as suggested by the PTO in its First Office Action. The response also included all amendments to the claim language suggested by the PTO. On April 20, 1989, the PTO issued a Notice of Allowance with respect to Ricoh's patent application. The '603 Patent as issued states:

> Related U.S. Application Data
>
> *Continuation of Ser. No. 866,414, May 23, 1986, Pat. No. 4,744,493, which is a continuation of Ser. No. 598,022, Apr. 9, 1984 Pat. No. 4,611,730.*

(Pl. Ex. 8, '603 Patent (emphasis added).)

Claims 1 through 4 of the '603 Patent are at issue in this case. Claim 1 of the '603 Patent, the only independent claim, reads:

> 1. A cartridge for use with a toner replenishing device and for detachable, sealingly and

rotationally engaging within a cylindrical portion of a cap-shaped receptacle of the toner replenishing device for the feeding of toner from said cartridge into the toner replenishing device, comprising:

> a main body containing a quantity of toner, said main body comprising a substantially hollow container having a longitudinal axis and first and second oppositely-disposed ends, said first end being closed, said second end comprising a mouth portion, said mouth portion comprising a substantially annular sidewall terminating in a place substantially perpendicular to said longitudinal axis, said mouth portion having a configuration suitable for rotational and sealing engagement within and relative to the cap-shaped receptacle of the toner replenishing device, said main body being open at said plane for the egress of toner; and a gear disposed on and extending circumferentially of said main body for rotatably driving said cartridge.

In the November 7, 1989, issue of the Official Gazette, the PTO printed Claim 1 and figure 2a of the '603 Patent, at page 131 of 527 pages. In early 1990, Nashua sold its Systems Division business to Gestetner, including Nashua's

Ricoh Copier distributorship. Ricoh and Nashua therefore ended their contractual relationship. In April of 1990, Ricoh and Nashua entered into a General Release Agreement (the "General Release Agreement"). Exhibit D to the General Release Agreement excepts from the general release, *inter alia*, "any other claims of which Ricoh will notify Nashua by the end of April, 1990." On April 27, 1990, Mr. Asano wrote to Mr. Buffum as follows:

> Pursuant to Section II of the EXHIBIT D ("Ricoh's Exception") of General Release of April 2, 1990, we hereby notify Nashua of Ricoh's claim as follows:
>
> > Any and all claims caused by infringement of Ricoh's U.S. Patents by Nashua's toner cartridges and developers.
>
> Your acknowledgment of receipt of this letter will be appreciated.

Mr. Buffum acknowledged Ricoh's notice by letter to Ricoh dated May 2, 1990, in which he wrote:

> I have received your facsimile message of April 27, 1990, notifying Nashua of Ricoh's claim as follows:
>
> > Any and all claims caused by infringement of Ricoh's U.S. Patents by Nashua's toner cartridges and developers.

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Prior to September 18, 1992, Attorney Cockfield orally communicated to Nashua his opinion that the Ricoh '603 Patent was invalid. On December 11, 1992, Mr. Cockfield provided Nashua with a formal written opinion. Daniel Lyman, Esq., the addressee of Mr. Cockfield's December 11, 1992, letter, served on the staff of Nashua's in-house counsel. In his formal opinion letter, Cockfield elaborated on the bases for his conclusion that the '603 Patent was invalid. Cockfield stated, in part:

> In response to Dave Dubeil's inquiry of September 1, 1992, we undertook an investigation with respect to possible issues which might arise out of Nashua's planned utilization of a toner cartridge to replace the Ricoh 6750 cartridge.
>
> Dave indicated to us that all prior design changes which had been contemplated in connection with this type of cartridge would be maintained, i.e., there would be no internal spiral groove or ridge, etc.
>
> We advised Dave (cc to you) through our letters of September 8 and September 18, 1992 that the most recent of the four Ikesue patents pertaining to this type of cartridge, i.e., Ikesue et al [sic] 4,878,603, contained an extraordinarily broad claim 1 which on its face would seem to present issues. However, it was our conclusion that this claim was demonstrably invalid.

Shortly thereafter, Nashua began developing toner cartridges for use in the Ricoh 6750 Copier. This cartridge later became known as the smooth-walled NT-6750.

On July 23, 1993, Ricoh filed suit (the "ICMI Lawsuit") against International Communication Materials, Inc. ("ICMI"), alleging patent infringement claims under the '730 and '603 Patents, and trademark infringement and false advertising claims. On July 26, 1993, Ricoh commenced a lawsuit against Densigraphix (the "Densigraphix Lawsuit") in the United States District Court for the District of New Jersey, asserting claims of patent infringement under the '730 and '603 Patents as well as trademark infringement claims. Mr. Lyman obtained a copy of court filings from the Densigraphix and ICMI lawsuits.

On December 2, 1993, at the request of Ricoh, Mr. Barnes of Nashua met with Mr. Yuasa of Ricoh in Boston. At that meeting, Mr. Yuasa directly raised Ricoh's concerns regarding Nashua's alleged infringement of Ricoh's cartridge patents. On January 7, 1994, Mr. Barnes wrote to Ricoh as follows:

> Based upon your observations in our meeting of December 2, 1993 in Boston, we have thoroughly reviewed Nashua's position with regard to the two Ricoh patents you mentioned.
>
> We firmly believe that Ricoh has no valid patent claim against Nashua.

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On January 19, 1994, Mr. Yuasa wrote to Nashua:

> I have received and am deeply disappointed by your January 7 letter. I traveled to Boston and met with you in the hope that we could work constructively toward an amicable resolution of Nashua's infringement of Ricoh's patents, a matter which our two companies have discussed for some time. At the end of our meeting, you asked for a month to consider this matter anew and to provide Ricoh with Nashua's position. I inferred from your request that Nashua would approach this subject as constructively as we had first hoped, especially in light of our companies' prior relationship.
>
> Your January 7 letter is inconsistent with such a constructive approach. You have summarily denied liability to Ricoh without offering any reasons for that position. Nashua's current posture will not allow us to continue a dialogue for avoiding litigation between our companies. I therefore invite you to reconsider your approach and inform me whether Nashua wishes to work with Ricoh to resolve this matter short of a lawsuit. I am prepared to visit you in Boston again, if we can have a constructive meeting. Otherwise, Ricoh will have no choice but to pursue the remedies that are available to it.

Ricoh and Nashua and their respective patent counsel met again on March 17, 1994, at the offices of Nashua's outside

patent counsel in Boston. Nashua advised Ricoh of its belief that Ricoh's toner cartridge patents were invalid and unenforceable.

On March 31, 1994, ICMI filed with the PTO a request for reexamination of the '603 Patent and the '730 Patent. That action was commenced on April 1, 1994. On November 8, 1994, the PTO issued Reexamination Certificates confirming the patentability of claims 1-14 of the '603 Patent. (Pl. Ex. 10, Reexamination Certificate.)

In April of 1994, Ricoh filed suit against Nashua, alleging that Nashua's smooth-walled NT-50 and NT-6750 cartridges infringe the '730 and '603 Patents.

This case presents questions related to both infringement and validity of the '603 Patent. District courts are encouraged to adjudicate both infringement and validity issues when both are raised. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 330 (1945). The appellate courts have not, however, indicated a preference as to which issue should be resolved first. Here, the court will first rule on Ricoh's single, and relatively straightforward, claim of infringement. It will then consider Nashua's multifaceted defense of invalidity, as well as its equitable and misuse defenses.

II. INFRINGEMENT

Ricoh claims that Nashua's NT-50 and NT-6750 toner cartridges infringe claims 1 through 4 of the '603 Patent. The burden of proving infringement rests, of course, with

Ricoh. *Smithkline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988). "Such proof must show that every limitation of the patent claims asserted to be infringed is found in the accused device, either literally or by an equivalent." *Id.* Determining whether a patent has been infringed necessarily involves two steps: (1) determining the scope of the asserted claim; and (2) determining whether the claim covers the accused product or device. *Id.*

A. Claim Construction

Claim construction is now entirely a matter of law. *Markman v. Westview Instruments, Inc.*, 116 S. Ct. 1384 (1996). Because a patent is written for and speaks to those skilled in the art to which it pertains, a claim is interpreted according to how one of ordinary skill in the relevant art would understand the claim language in light of the specification, other claims in the patent, drawings, the Patent Office history, and the prior art. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-80 (Fed. Cir. 1995) (*en banc*), *aff'd*, 116 S. Ct. 1384 (1996). The terms of a patent claim must be given their plain and ordinary meaning unless it appears that the patentee has chosen to give them special meaning. *Bell Communications Research, Inc. v. Vitalink Communications Co.*, 55 F.3d 615, 620-21 (Fed. Cir. 1995). Nonetheless, in construing the patent's terms, the court may consider evidence external to the patent and prosecution history, including expert and inventor testimony, either to explain technical terms and terms of art or to demonstrate the state of the prior art at the time of the invention. *Markman*, 52 F.3d at 980.

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As an initial matter, then, the court must determine the qualifications of a typical person of ordinary skill in the relevant art. The parties in this case agree on the level of skill that should be attributed to that person: he or she has a bachelor's degree and five years experience working in the art. (*See, e.g.*, Johnson, Day 9 (p.m.) at 77) They disagree slightly, however, on the nature of the relevant *art*. Nashua argues that the relevant art is the field of photocopiers and toner, while Ricoh argues that the relevant art is the design of hardware in the field of photocopiers and toner. Because the issues in this case relate primarily to the design of hardware, and because any person reading Claims 1-4 of the '603 Patent for the purpose of understanding and practicing the invention described therein would most likely have some experience in relevant hardware design or operation, the court accepts Ricoh's description of the person of ordinary skill in the relevant art: a person with a bachelor's degree in engineering and five years or so of experience in the design of hardware used in the photocopier and toner field.

As all parties agree in their post-trial briefs, the only real dispute regarding infringement is whether Claims 1-4 of the '603 Patent require a "side seal" or a "top seal." The answer depends, in turn, on the proper construction given Claim 1, the only independent claim on which Ricoh sues. Claims 1-4 of the '603 Patent read:

> 1. A cartridge for use with a toner replenishing device and for detachable, sealingly and rotationally engaging within a cylindrical portion of a cap-shaped receptacle of the toner

replenishing device for the feeding of toner from said cartridge into the toner replenishing device, comprising:

> a main body containing a quantity of toner, said main body comprising a substantially hollow container having a longitudinal axis and first and second oppositely-disposed ends, said first end being closed, *said second end comprising a mouth portion, said mouth portion comprising a substantially annular sidewall terminating in a plane substantially perpendicular to said longitudinal axis, said mouth portion having a configuration suitable for rotational and sealing engagement within and relative to the cap-shaped receptacle of the toner replenishing device, said main body being open at said plane for the egress of toner*; and a gear disposed on and extending circumferentially of said main body for rotatably driving said cartridge.

2. The cartridge of claim 1, said main body being substantially cylindrical, an outside diameter of said mouth portion being substantially equal to an outside diameter of said main body.

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> 3. The cartridge of claim 1, said gear being disposed proximate said open end of said main body, said mouth portion being disposed between said gear and said open end.
>
> 4. The cartridge of claim 1, comprising a substantially annular gear-tooth-bearing member, said gear being formed thereon, said gear-tooth-bearing member being disposed on said main body.

(Pl. Ex. 8, '603 Patent at col. 7 & 8, lines 49-68, 1-12 (emphasis added).) Nashua's sole argument against infringement is that the '603 Patent, properly construed, claims a side seal and does not claim the top seal exhibited by the NT-50 and NT-6750 cartridges. Nashua's argument rests on a rather strained interpretation of both the claim language and the specification of the '603 Patent.

Nashua relies heavily on the testimony of its expert, Dr. Schein, who suggested that a person of ordinary skill in the art would conclude that the "mouth portion" described in Claim 1 does *not* include the "plane substantially perpendicular to said longitudinal axis" in which the mouth portion terminates. Because the "mouth portion," but not the plane in which it terminates, must be "suitable for rotational and sealing engagement within and relative to the cap-shaped receptacle," the argument continues, the '603 Patent necessarily describes a seal along the outer circumferential sidewall of the cartridge. (Schein, Day 7 (a.m.) at 47-49.)

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Unsurprisingly, Ricoh's expert, Dr. Sturges, disagreed. He testified that a person of ordinary skill in the art would read Claim 1, in the context of the rest of the '603 Patent, to describe a top seal. In his opinion, the mouth portion as described *includes* the plane in which it terminates. Stated more simply, perhaps, the surface of the mouth portion lying along the plane substantially perpendicular to the cartridge's longitudinal axis is a part of the mouth portion, just as the top surface of a brick wall terminating in a horizontal plan perpendicular to the ground is part of the wall. Because the top edge of the mouth portion is part of the mouth portion, the sealing engagement described is consistent with a top seal. (Sturges, Day 2 (p.m.) at 63-65.)

When Claim 1 is read in light of the '603 Patent as a whole, as the law requires, Ricoh's interpretation becomes demonstrably correct. First, the phrase "substantially annular sidewall terminating in a plane" is most naturally read as including the terminating plane as part of the mouth portion. The cartridge is, after all, a three-dimensional object and the plane in which the mouth portion of the cartridge terminates gives depth to the sidewall. Nashua's reading would divorce the top surface of the bottle (viewing the cartridge as standing on the closed portion) from the "mouth portion" that constitutes the top of the bottle and would result in the seemingly absurd real world deduction that the mouth of the cartridge — that is, the opening designed to allow for the egress of toner — is also not part of the mouth portion of the cartridge.

In addition, the specification of the '603 Patent shows conclusively that the plane is part of the mouth portion and

that the patent describes a top seal. Figure 16 and the accompanying text show that the terminating surface of the mouth portion is considered a part of the mouth portion. (Pl. Ex. 8, '603 Patent at col 7, lines 7-10.) Most convincingly, Figure 4 unambiguously depicts a top seal; the drawing shows no gap between the top edge of the cartridge and the cap-shaped receptacle when the spring is fully recovered and the cartridge is fully engaged in the toner replenishing device. That same figure does, however, depict a gap between the sidewall of the cartridge and the cap-shaped receptacle, ruling out a side seal. (Pl. Ex. 8A, '603 Patent, fig. 4 enlargement.)

Despite Nashua's arguments to the contrary, the finding that Claim 1 describes a top seal is also consistent with the portion of Claim 1 that calls for sealing engagement within the "cylindrical portion of a cap-shaped receptacle." Dr. Schein opined that Claim 1 requires sealing along the outer circumferential sidewall of the receptacle. The claim, however, contains no such limitation, either on its face or in light of the relevant drawings, each of which more persuasively supports the conclusion that the '603 Patent describes a top seal effected between the terminating surface of the cartridge's open end and the top of the cap-shaped receptacle. (Pl. Ex. 8, '603 Patent, figs. 2b, 4, 7b.)

B. Applying the Claims

An accused device literally infringes a patent claim if it meets every limitation set forth in the asserted claim. *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535 (Fed. Cir. 1991). Nashua concedes (its invalidity and equitable

arguments aside) that if Claims 1-4 of the '603 Patent are properly interpreted to require a top seal, its NT-50 and NT-6750 toner cartridges literally infringe Claims 1-4 of the '603 Patent. They do. In addition, Ricoh has demonstrated through the testimony of its engineering expert, Dr. Sturges, that the Nashua toner cartridges infringe Claims 1-4 of the '603 Patent. (Sturges, Day 2 (p.m.) at 58-69; Pl. Exs. 28 & 29.)

III. VALIDITY

Nashua's next line of defense to Ricoh's claim of infringement is that the '603 Patent is invalid due to its failure to meet four separate statutory standards which every patent must meet. Specifically, Nashua contends that the '603 Patent: (1) fails to meet the written description and enablement requirements of 35 U.S.C. § 112; (2) fails to set forth the best mode of practicing the invention, also required by section 112; (3) fails to describe the invention with the definiteness required by section 112; and (4) is obvious in light of the prior art, in contravention of 35 U.S.C. § 103.

The '603 Patent is, by statute, presumed valid. 35 U.S.C. § 103. This presumption is based on the PTO's particular expertise in interpreting language used in patent applications as well as its familiarity with the ordinary level of skill in the relevant art. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 446-447 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987). Given those presumptions, Nashua bears the burden of proving invalidity, and must do so by clear and convincing evidence.

Appendix B

Gillette Co. v. S.C. Johnson & Son, Inc., 919 F.2d 720, 723 (Fed. Cir. 1990).

A. Enablement and Written Disclosure

Section 112 provides that:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . . .

35 U.S.C. § 112. The so-called "enablement requirement" contained in section 112 is satisfied if the patent teaches those skilled in the art how to make and use the claimed invention without *undue* experimentation. *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993). Therefore, the '603 Patent must teach a person with a bachelor's degree in engineering and five years' experience in the design of hardware used in the field of photocopiers and toner delivery systems, how to make the claimed invention. Because a patent is directed at this hypothetical person, "a patent need not teach, and preferably omits, what is well known in the art." *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987).

All of Nashua's arguments regarding description and enablement rest on the alleged inadequate disclosure of the sealing mechanism claimed in the specification of the '603

Patent. First, Nashua contends that a person of ordinary skill in the art could not, upon reading the specification, make and use the claimed invention, because the specification does not adequately display the location of the seal.

The "Description of the Preferred Embodiments" contained in the '603 Patent clearly indicates that a seal is formed between the cartridge and the cap-shaped receptacle, within the receptacle itself. Describing figure 2b, the specification states, "A supporting sleeve 44 is rotatably fitted into the cylinder member 41, and integrally provided with the supporting sleeve 44 is a cap-shaped receptacle 45 in which the mouth of the cartridge 6 may be rotatably and sealingly received." (Pl. Ex. 8, '603 Patent at col. 3, lines 61-65.) In column 5 lines 1-5, the specification describes the operational position of the cartridge, stating, "[W]hen the knob 49 is pivotted [sic] back to its original position, the holder 52 now holding therein a new cartridge 6 moves forward due to the recovery force of the spring 48 so that the mouth 61 of the new cartridge 6 is fitted into the cap-shaped receptacle 45." Further, as concluded above in the context of infringement, figures 4 and 16 and their accompanying texts make clear that within the cap-shaped receptacle the seal is effected between the *top* surface of the cartridge and the inner surface of the top (or, the underside surface of the top) of the receptacle. Indeed, the only element of the cap that would stop the upward motion of the bottle cause by the spring is the top end of the receptacle. (Sturges, Day 3 (a.m.) at 25.)

In light of the information contained in the specification, and accepting the testimony of Dr. Sturges

as persuasive, the court finds that a person of ordinary skill in the art, reasonably motivated to understand the invention, would fully understand the specification as describing a rotating face seal that is effected by urging the top surface of the cartridge into contact with the cap-shaped receptacle. (Sturges, Day 3 (a.m.) at 25-26.) Little experimentation would be required of a person of ordinary skill in the art in order to attain and practice the seal described in the specification of the '603 Patent.

Necessarily included in this determination is a rejection of Nashua's argument that the specification of the '603 Patent cannot adequately teach the patent without disclosing the existence or location of a foam gasket seal between the cartridge and the receptacle.[1] The court's rejection of Nashua's argument has two bases. First, Nashua has not carried its burden of proving by clear and convincing evidence that a foam seal is necessary to practice the invention. Dr. Schein testified that a normal blow molded cartridge could not display along its top surface a "flatness tolerance" or "surface roughness" of a tolerance fine enough to prevent the leakage of minute toner particles during operation. (Schein, Day 7 (a.m.) at 70-71, Day 7 (p.m.) at 6, 98.) Jerome Johnson, Ricoh's rebuttal expert, however, gave credible and unrebutted testimony that the top surface of the cartridge could be manufactured to an acceptable tolerance through other, albeit more expensive, molding, trimming, and finishing techniques. (Johnson, Day 9 (p.m.)

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1. The commercial versions of Ricoh's toner replenishing device contain such a foam seal, but none is disclosed anywhere in the '603 Patent.

at 64-68.) The court so finds. Thus, a seal could be effected without the use of a foam gasket, though commercial success probably requires its use.

Furthermore, even if a foam gasket were necessary to practice the invention, Nashua has not proven that a person of ordinary skill in the art, reasonably motivated to understand and practice the invention, could not have recognized the utility of a foam or similar gasket without *undue* experimentation. Nashua offered no evidence that the use of such seals in the photocopier/toner field was anything but commonplace, and certainly did not establish that the use of such seals was beyond the ken of the phototypical person of ordinary skill in the art. To the contrary, use of a foam gasket seal was well known in the art and, for that reason, was perhaps best left out of the specification. For these reasons, Nashua has not met its burden of proving that the specification of the '603 Patent does not describe the invention in "such full, clear, concise and exact terms as to enable any person skilled in the art . . . to make and use same."

B. Best Mode

Section 112 of the Patent Act also provides that "the specification . . . shall set forth the best mode contemplated by the inventor of carrying out his invention." 35 U.S.C. § 112. "Patent invalidity for failure to set forth the best mode requires that (1) the inventors knew of a better mode of carrying out the claimed invention than they disclosed in the specification, and (2) the inventors concealed that better mode." *Engel Indus., Inc. v. Lockformer Co.*, 946

F.2d 1528, 1531 (Fed. Cir. 1991). Nashua contends that the '603 Patent fails to set forth the best mode for carrying out the invention because it does not disclose the use of a foam gasket to effect a seal between the cartridge and the cap-shaped receptacle. Of course, Nashua must prove both the "subjective" and "objective" prongs of the best mode defense by clear and convincing evidence in order to prevail.

1. The Inventors' Subjective Knowledge of Best Mode

As an initial matter, Nashua must prove that, at the time of filing, the inventors of the device described in the '603 Patent knew the utility of foam gaskets as sealing mechanisms and considered a seal effected by a foam gasket to be better than a seal effected by face-to-face contact between the cartridge and the cap-shaped receptacle. Nashua points first to the commercial version of the Ricoh 5000 Series Copier, which has always been sold with a foam gasket permanently affixed to the cap-shaped receptacle. (Pl. Ex. 23, Toner Replenishing Device.) While potentially relevant, the commercial embodiment of the patented device does not, by itself, speak to the inventors' state of mind. Indeed, it is far more probative of what Ricoh thought to be the best mode of mass producing and commercially employing the invention. (Johnson, Day 9 (p.m.) at 68.) The fact that a particular embodiment is best for mass production does not necessarily make it the best mode of practicing the invention known to the inventor:

> Any process of manufacture requires the selection of specific steps and materials over

> others. The best mode does not necessarily cover each of these selections. To so hold would turn a patent specification into a detailed production schedule, which is not its function.

Wahl Instruments, Inc. v. Acvious, Inc., 950 F.2d 1575, 1581 (Fed. Cir. 1991).

In order to bolster its argument that the commercial version of the toner replenishing device is reflective of the inventors' intent, Nashua points to the testimony of the inventors themselves. (Ikesue, Day 2 (a.m.) at 42-48; D. Ex. 237(a), Ikesue dep. at 71, 78-79, Ikeda dep. at 79-82.) Mr. Ikesue's testimony establishes that he and Mr. Ikeda experimented with several sealing mechanisms; some utilized foam seals and some did not. At best, his testimony supports the notion that the inventors thought using a foam gasket was *a* mode of practicing the invention. The inventors also testified, however, that they preferred a "face seal" without a foam gasket as the *best* mode of practicing the invention; it was the cost constraints imposed by mass production, not their preference, that made the foam gasket utilized in the commercial version advisable. (Ikesue, Day 2 (a.m.) at 42-44; Ex. 237(a), Ikeda dep. at 81.)

In short, Nashua has introduced no clear and convincing evidence that the inventors considered anything but the face seal depicted in the '603 Patent as the best mode of practicing the invention. As a result, consideration of the objective prong is unnecessary and Nashua's best mode defense fails.

C. Definiteness

Implicit in Nashua's proposed reading of Claim 1, as well as in all of the statutory invalidity arguments considered so far, is an assertion that the '603 Patent does not meet the final requirement of section 112 that the "specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112. The test governing this "definiteness" challenge is similar to the principle guiding claim construction in the context of infringement and asks "whether one skilled in the art would understand the bounds of the claim when read in light of the specification. If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more." *Miles Labs., Inc. v. Shandon Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993) (citations omitted) *cert. denied*, 510 U.S. 1100 (1994).

As the court found in the context of infringement, Claim 1 of the '603 Patent would be read by a person of ordinary skill in the art to describe, with the requisite specificity, the claimed toner cartridge, including the top seal between the cartridge and the cap-shaped receptacle. This is particularly true when Claim 1 is read in light of the specification. For the same reasons the court rejected Nashua's proposed reading of Claim 1 in the context of infringement, it rejects Nashua's definiteness challenge to the validity of the '603 Patent.

D. Obviousness

As its final statutory challenge to the validity of the '603 Patent, Nashua argues that Claims 1-4 are obvious in light of the prior art. Section 103 of the Patent Act states:

> A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103.

Although obviousness is a question of law, it turns on several factual inquiries:

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. . . . Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.

Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966).

Appendix B

Because the '603 Patent is presumptively valid, "the presumption is that the invention would not have been obvious." *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1570 (Fed. Cir.), *cert. denied*, 481 U.S. 1052 (1987). In most instances, then, the party claiming obviousness must prove it by clear and convincing evidence. However, when the party contending that the invention was obvious bases its argument on prior art that the PTO has already determined does *not* render the invention obvious, the challenger "has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job." *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed Cir.), *cert. denied*, 469 U.S. 821 (1984).

Here, Nashua relies on seven prior art references that it believes render claims 1-4 of the '603 Patent obvious. Namely, Nashua points to the *Knechtel*, *Kawata*, *Johnston*, *Stoffel*, *Dubois*, *Feldiesen*, and *Suzuki* Patents, arguing that one and/or a combination of these patents render obvious a toner cartridge with a gear disposed on and extending circumferentially of the main body for rotatably driving the cartridge and a mouth portion suitable for rotational and sealing engagement within and relative to the cap-shaped receptacle of a toner replenishing device. The PTO has already considered each of these patents and the relationship of each, both alone and in combination with others, to the invention claimed in the '603 Patent. During the original prosecution of the '603 Patent, the PTO Examiner considered the *Johnston*, *Kawata*, and *Knechtel* patents. (Pl. Ex. 8, '603 Patent.) In 1994, ICMI challenged the validity of the '603 Patent through a reexamination proceeding,

relying on an obviousness argument and all of the seven prior art references Nashua relies upon here. (Pl. Ex. 10, Reexamination Proceedings.)

Section 103 again requires the court to stand in the shoes of a person having ordinary skill in the art. In this instance, however, the court must make a further assumption and view the prior art only from the vantage afforded this hypothetical person at the time the invention was made.

> The primary value in the[se] requirement[s] . . . lies in [their] tendency to focus the mind of the decisionmaker away from what would presently be obvious to that decisionmaker and toward what would, when the invention was made, have been obvious, as the statute requires, "to one of ordinary skill in the art."

Kloster Speedsteel AB v. Crucible, Inc., 793 F.2d 1565, 1574 (Fed Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987). Further, "[t]he statutory emphasis is on a person of *ordinary* skill" who is "presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patient, and often expensive, systematic research or by extraordinary insights." *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

1. Scope of Prior Art and the '603 Patent

Simply put, none of the seven prior art references upon which Nashua relies, either alone or in combination with

the other six, renders the subject matter of the '603 Patent obvious. No single prior art reference introduced by Nashua anticipates a toner cartridge that detachably and sealingly engages within and relative to a cap shaped receptacle and exhibits a gear disposed on and extending circumferentially of the body for the purpose of rotatably driving the cartridge.[2] Indeed, no combination of the relevant aspects of the prior art would have yielded the device described in the '603 Patent because none of the prior art references described a gear disposed on the cartridge for mechanically rotating the cartridge.

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2. Specifically, the *Knechtel* and *Kawata* Patents disclose a toner cartridge of the same general shape described in Claim 1 of the '603 Patent, but exhibit no other attributes relevant here. (D. Ex. 209, *Knechtel* Patent; D. Ex. 210, *Kawata* Patent.) The *Stoffel* Patent describes a toner cartridge that rotates by means of a gear. The gear, however, is located on the receptacle and not on the cartridge itself. The cartridge is located entirely within the receptacle, or "housing" and dispenses toner not through a mouth portion, but by means of a "plurality of chutes." (D. Ex. 212, *Stoffel* Patent.) The *Feldiesen* and *Suzuki* Patents, both of which describe a one time dump of toner, rather than a continuous feed of toner, both disclose a toner cartridge that fits within a cap-shaped receptacle. Neither patent, however, describes a gear or other drive mechanism suitable for mechanically rotating the cartridge. Indeed, *Suzuki* doesn't rotate at all within the receptacle. (D. Ex. 214, *Feldiesen*; Patent D. Ex. 198, *Suzuki* Patent.) The *Dubois* and *B.H. Johnston* Patents display many, but not all of the pertinent attributes. Neither describes a gear for means of rotating the cartridge. The *Dubois* Patent does not fit within a cap-shaped receptacle and the *Johnston* Patent does not rotate relative to a cap-shaped receptacle. (D. Ex. 213, *Dubois* Patent; D. Ex. 211, *Johnston* Patent.)

Finally, even if, in hindsight, the court could identify all of the relevant limitations of the '603 Patent in some combination of the prior art references, Nashua has not proven that the combination itself would have been obvious at the time of filing. It is black letter law that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). No such combination is suggested by the prior art Nashua introduced. Thus, Nashua has failed to demonstrate by even a preponderance of the evidence that the invention described in the '603 Patent would have been obvious to a person of ordinary skill in the art and has certainly not shouldered the heightened burden applicable here.[3]

IV. EQUITABLE DEFENSES

Nashua also argues that Ricoh is barred from recovery, in whole or in part, by the doctrines of equitable estoppel and laches. A successful laches defense "bars relief on a patentee's claim only with respect to damages accrued prior to suit." *A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1041 (Fed. Cir. 1992) (*en banc*). A successful equitable estoppel defense, on the other hand, may bar relief entirely. *Id.* Unlike defenses challenging the validity of a patent, equitable defenses need only be proved by a preponderance of the evidence. *Id.* at 1037, 38.

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3. Because the court finds Nashua's evidence lacking, it need not consider the secondary indicia of nonobviousness offered by Ricoh.

Appendix B

In order to succeed in its laches defense, Nashua must prove that: (1) Ricoh unreasonably and inexcusably delayed filing suit from the time Ricoh knew or reasonably should have known of its claim against Nashua; and (2) Nashua suffered material prejudice or injury as a result of the delay. *Id.* at 1032.

In order to succeed in its equitable estoppel defense, Nashua must prove that: (1) Ricoh, through misleading conduct, led Nashua reasonably to infer that Ricoh did not intend to enforce the '603 Patent against Nashua; (2) Nashua relied on that conduct; and (3) due to its reliance, Nashua would be materially prejudiced were Ricoh allowed to proceed with its claim. *Id.* at 1028. The "misleading conduct" may include specific statements, actions, inaction, or silence where there is an obligation to speak. *Id.*

Nashua must establish as an essential element of both of its equitable defenses that there existed a causal nexus between Ricoh's delay or misleading conduct and Nashua's decision to go forward with it smooth-walled cartridges. In order to prove laches, Nashua must demonstrate that its "change in economic position would not have occurred had the patentee sued earlier." *Gasser Chair Co. v. Infanti Chair Mfg. Corp.*, 60 F.3d 770, 775 (Fed. Cir. 1995). Similarly, in order to establish the defense of equitable estoppel, Nashua must prove that "in fact, it substantially relied on the misleading conduct of [Ricoh] in connection with taking some action." *A.C. Aukerman*, 960 F.2d at 1042-43. Nashua expended a good deal of energy at trial, and much space in its post-trial brief, attempting to prove that Ricoh's delay was unreasonable and inexcusable and that Ricoh's actions

were misleading; it did not, however, prove the causal nexus necessary to its equitable defenses. Thus, even assuming, for argument's sake, that Ricoh inexcusably and unreasonably delayed in filing suit or that Ricoh's conduct supported a reasonable inference that it did not intend to press its patent claims against Nashua, Ricoh's suit is not barred, either in whole or in part, by the doctrines of equitable estoppel or laches.

The evidence presented at trial conclusively established that Nashua's decision to go forward with its NT-50 and NT-6750 smooth-walled cartridges had little, if anything to do with Ricoh's conduct and everything to do with Nashua's good-faith but mistaken belief that its smooth-walled cartridges infringed neither the '730 nor the '603 Patents. Nashua admittedly obtained and relied upon the advice of its outside patent counsel, James Cockfield, prior to developing the smooth-walled NT-50 and NT-6750 cartridges and, armed with Cockfield's opinions regarding validity and infringement, proceeded to produce the cartridges. (D. Exs. 143, April 7, 1987 Letter, 145, Sept. 8, 1992 Letter, 146, Sept. 18, 1992 Letter, 147, Dec. 11, 1992 Letter, 207, Jan. 24, 1994 Letter, 208, March 2, 1994 Letter.) Indeed, Nashua's reliance on the advice of counsel is also central to its defense against Ricoh's claim of willful infringement.

Of course, the fact that Nashua relied on and based its decisions on the advice of its patent counsel does not rule out the conclusion that Ricoh's delay and conduct were also causally related to Nashua's decision to go forward with its smooth-walled cartridges. Nashua asserts, as it must, that

had Ricoh voiced concerns about the smooth-walled cartridges earlier and more vociferously, Nashua would not have produced the infringing products. But the testimony of the head of Nashua's product division, John Barnes, does not support this assertion. Asked whether Nashua would have gone ahead with the smooth-walled cartridges if Ricoh had more forcefully voiced its infringement concerns, Barnes stated that Nashua would have "tried to see if it was easy for us to accommodate Ricoh or get around the problem. After our analysis, our response would have been based upon the expense and the difficulty of trying to resolve the issue in a way that would satisfy them. *And I could only speculate on that.*" (Barnes, Day 5 (a.m.) at 71 (emphasis added).) In short, the best that can be said is that Nashua was prepared to address any infringement concerns Ricoh might raise, but only if appeasing Ricoh did not come at too high a price. In light of this admission, the court cannot find that Nashua has carried its burden of proving by a preponderance of the evidence that but for Ricoh's delay in filing suit or otherwise expressing its concerns over infringement of the '603 Patent Nashua would not have made a substantial investment in the infringing products.

Similarly, Nashua has not proven that it relied on misleading conduct on the part of Ricoh when it began development of the smooth-walled NT-50 and NT-6750 cartridges. To the contrary, the testimony of Nashua's William Price established that Nashua was operating under the assumption that Ricoh *did*, in fact, intend to enforce its rights under the '603 Patent. When asked why Nashua did not simply ask Ricoh whether Ricoh was satisfied that the smooth-walled cartridge did not infringe the '730 or '603

Patents, Price conceded that Nashua "didn't expect their blessing. . . . Ricoh wasn't really, I suspect, going to give us that's great; you fixed the problem; we're all happy now." (Price, Day 5 (a.m.) at 127.) Rather than proving that Nashua acted in reliance on Ricoh's conduct, the evidence demonstrates that Nashua went forward with the smooth-walled cartridge either in spite of or in conscious disregard of Ricoh's conduct; Nashua understood well the game being played and, knowing the risks, consciously took them.

Further, Nashua is only entitled to the equitable defenses it asserts if the equities of the case as a whole favor relief. Here, Nashua appears to have "made a deliberate business decision to ignore [a] warning, and to proceed as if nothing had occurred." *Hemstreet v. Computer Entry Sys. Corp.*, 972 F.2d 1290, 1294 (Fed. Cir. 1992). At regular intervals throughout the period beginning on June 17, 1987, when Nashua first informed Ricoh that it was considering production of a smooth-walled cartridge, and ending on April 1, 1994, when Ricoh filed suit, Ricoh expressed its concern over the possibility that Nashua's smooth-walled cartridges infringed Ricoh's '730 and '603 Patents. (*See* Jt. Facts ¶¶ 29, 31, 32, 43, 46, 49, 55, 67, 69, 71, 72; Pl. Exs. 56, 57, 58, 61, 63, 75, 76.) It is true, as Nashua asserts, that Ricoh could have voiced its concerns more often more bluntly and less civilly. However, given that both companies are run by sophisticated businesspeople, had a longstanding business relationship, and discussed the patents and toner cartridges with each other so often over the course of seven years, Nashua's claimed failure to recognize Ricoh's intent to enforce its

rights under the '603 Patent is, if sincere, necessarily attributable to willful blindness on the part of Nashua executives. Any reasonable person would have understood Ricoh's regular communications on the subject of toner cartridges and patent issues as expressing direct concern, albeit polite concern, over Nashua's potential infringement. Nashua either interpreted Ricoh's actions in an unreasonable manner or made a business decision to manufacture its cartridges in conscious disregard of Ricoh's claimed intent to enforce its rights under the '603 Patent. In either event, Nashua must bear the consequences of its decision to manufacture infringing products. Because Nashua has not met its burden of proving the requisite causal connection required by both laches and equitable estoppel,[4] and because Nashua displayed willful blindness to Ricoh's intent to enforce its rights under the '603 Patent, Nashua is not entitled to the equitable relief it requests.

A. Intervening Rights

In a final challenge that it labels equitable in nature, Nashua advances a somewhat foggy argument claiming protected "intervening rights" under the '730, '493, '603

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4. By focusing on the causal nexus required by laches, the court bypasses the question of whether or not Nashua established a presumption of laches by proving a six-year delay on the part of Ricoh. Even if Nashua were entitled to the "double bursting bubble" presumption of laches, *Hemstreet*, 972 F.2d at 1293, Ricoh has burst that bubble by introducing evidence, recounted above, that it's delay was not unreasonable *and* that Nashua was not prejudiced *as a result of* Ricoh's delay. Thus, the ultimate burden of persuasion remained with Nashua. *Id.*, *Aukerman*, 960 F.2d at 1039.

Patent trilogy. Interpreted in a light most favorable to Nashua, the argument goes something like this: Although both Ricoh and the PTO have labeled the '603 Patent a continuation patent that is not patentably distinct from the '730 Patent, the '603 Patent is, in reality, a "reissue patent" that expands the scope of the '730 Patent pursuant to 35 U.S.C. § 251. Under 35 U.S.C. § 252, the argument continues, Nashua's rights to make and sell the NT-50 and NT-6750 are protected as "intervening rights" because Nashua invented its cartridges prior to the grant of the '603 Patent.

Nashua points to no legal or factual bases on which this court could rest a decision that the '603 is not the continuation patent that both Ricoh and the PTO consider it to be. Rather, Nashua baldly contends that "Ricoh *should have* and *could have* filed for reissue of the original '730 Patent," (D. Post-Trial Mem. at 31.) instead of seeking a continuation patent and executing a terminal disclaimer. In essence, Nashua seems to be crying "foul" because Ricoh applied for and received the '603 Patent after viewing Nashua's smooth-walled cartridge. Nashua's allegation of inequitable conduct rings hollow:

> It should be made clear . . . that there is nothing improper, illegal, or inequitable in filing a patent application for the purpose of obtaining a right to exclude a known competitor's product from the market; nor is it in any manner improper to amend or insert claims intended to cover a competitor's product the applicant's attorney has learned about during the prosecution of a patent

> application. Any such amendment or insertion must comply with all statutes and regulations, of course, but, if it does, its genesis in the marketplace is simply irrelevant and cannot of itself evidence deceitful intent.

Kingsdown Medical Consultants, Ltd. v. Hollister, Inc., 863 F.2d 867, 874 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1067 (1989). This is precisely what Ricoh did in applying for the '603 Patent, and Nashua has articulated no argument, other than those rejected herein, that the '603 continuation patent does not "comply with all statutes and regulations." *Id.* Therefore, the court rejects Nashua's intervening rights argument.

V. PATENT MISUSE

In a final attempt to prevent Ricoh from recovering damages for Nashua's infringement of Ricoh's valid '603 Patent, Nashua argues that Ricoh has misused the patent. The doctrine of patent misuse is an affirmative defense to a claim of patent infringement established by showing "that the patentee has impermissibly broadened the 'physical or temporal scope' of the patent grant with anticompetitive effect." *Windsurfing, Int'l v. AMF Inc.*, 782 F.2d 995, 1001 (Fed. Cir.) (quoting *Blonder-Tongue Labs., Inc. v. University of Ill. Found.*, 402 U.S. 313, 343 (1971)), *cert. denied*, 477 U.S. 905 (1986). Nashua contends that Ricoh has engaged in two types of activity that constitute misuse: (1) conditioning sale of a patented product (toner cartridges) on the purchase, use, or sale of a non-patented product (the toner in the cartridges), a practice known as "tying;" and

(2) conditioning the sale of a patented product (toner cartridges) on an agreement not to purchase, use, or sell the products of a competitor. *See Zenith Radio Corp. v. Hazeltine Research*, 395 U.S. 100, 136 (1969).

A. Tying

In order to establish an unlawful tying arrangement, Nashua must prove three things: (1) two separate products were tied together; (2) Ricoh has sufficient market power to impose restrictions on the tied market; and (3) the arrangement affects a "not insubstantial" volume of commerce in the tied market. *Jefferson Parish Hosp. v. Hyde*, 466 U.S. 2, 12-15 (1984); *Grappone, Inc. v. Subaru of New England*, 858 F.2d 792, 794 (1st Cir. 1988). "[T]he essential characteristic of an invalid tying arrangement lies in the seller's exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms." *Jefferson Parish Hosp.*, 466 U.S. at 12.

As an initial matter, then, Nashua must prove that the toner cartridge and the toner it contains are separate products. In the patent misuse context, the test for separateness "look[s] only to the nature of the claimed invention as the basis for determining whether a product is a *necessary concomitant of the invention or an entirely separate product*." *Senza-Gel Corp. v. Seiffhart*, 803 F.2d 661, 670-71 n.14 (Fed. Cir. 1986) (emphasis added). Application of this test to the invention claimed in the '603 Patent is straightforward. Claim 1 of the '603 Patent

describes the patented device as comprising "a main body *containing a quantity of toner* . . . said main body being open at said plane for the egress of toner." (Pl. Ex. 8, '603 Patent at col. 7, lines 49-66.) Claim 1, therefore, explicitly recognizes that the toner contained within the cartridge is a component of the invention and a necessary concomitant of the cartridge itself; one is useless without the other. The practicality (if not pragmatic necessity) of selling the two component parts of the invention together is even more obvious in light of the stated purposes of the invention, one of which is to "provide a toner replenishing device capable of transferring fresh toner to a toner storage area from a cartridge securely without loss and scattering," and another of which is to "insure that toner of the same kind or property may be replenished at all times." (Pl. Ex. 8, '603 Patent at col. 1-2, lines 67-68, 1-2, 9-10.) Both of these purposes would be defeated if empty cartridges and bulk toner were sold separately to customers. Nashua has not satisfied the first of the three prongs necessary to prove misuse through tying. Therefore, this defense also fails.

B. Anti-Competitive Marketing and Purchasing Arrangements

Finally, Nashua contends that Ricoh engaged in patent misuse by conditioning the sale of its patented toner cartridges on an agreement not to purchase, use, or sell the products of a competitor. In support of this argument, Nashua points to two types of sales agreements Ricoh has with its dealers. Ricoh offered the option of the Sole Source Blanket Pricing Agreement ("BPA") to its dealers beginning in 1993. The BPA offers Ricoh supplies to dealers at a lower

price if the dealers agree to purchase their supplies only from Ricoh during the six-month term of the agreement. (D. Ex. 110, BPA.) For those dealers that do not wish to make a sole source commitment, but will commit to buying a certain volume of products from Ricoh, the plaintiff offers the Carton Quantity Contract Agreement ("CQC"). (D. Ex. 112, CQC.) The BPA and CQC offer Ricoh Toner Cartridges, and nearly all other Ricoh supplies, to dealers at approximately the same price.[5] (D. Ex. 110, 111, 112.) Ricoh also sells all of its products to any dealers that do not participate in either the CQC or the BPA, although at prices above those offered under the bulk purchasing plans. (Jt. Facts ¶ 88.)

For obvious economic reasons, most Ricoh dealers purchase Ricoh supplies under either the BPA or CQC. However, none of the purchasing agreements Nashua points to, alone or in combination with the others, constitutes, either explicitly or implicitly, a refusal to sell patented Ricoh Toner Cartridges to dealers who also purchase competitors' products. Only the BPA option is a true sole source agreement, but dealers may purchase under the CQC at nearly the same prices as those offered under the BPA. Finally, dealers always have the option of purchasing supplies on a per-carton basis. Certainly, the economic incentives set out in Ricoh's purchasing plans constitute savvy marketing, and take advantage of the savings

---

5. Under the Ricoh Advance Inventory Management ("AIM") plan, dealers do receive an indirect 1% discount on all products purchased through the BPA. A 1% discount, however, does not constitute an indirect requirement to buy solely from Ricoh.

generated by selling and shipping their products in large quantities at regular intervals. And the plans do take advantage of Ricoh's relative power in the photocopier market. But they do not condition the sale of patented Ricoh Toner Cartridges on an agreement not to purchase, use, or sell the products of a competitor. Nashua has not met its burden of proving unlawful misuse of the '603 Patent.

VI. REMEDIES

Having proven that Nashua infringed a valid patent, Ricoh requests the court to award both injunctive relief and money damages. In addition, Ricoh argues it is entitled to pre-judgment interest and reasonable attorneys' fees. The court will address each type of requested relief in turn.

A. Injunctive Relief

Section 283 of the Patent Act states, "The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable." 35 U.S.C. § 283. "It is the general rule that an injunction will issue when infringement has been adjudged, absent a sound reason for denying it." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1246-47 (Fed. Cir.), *cert. denied*, 493 U.S. 853 (1989).

Ricoh has proven that the Nashua NT-50 and NT-6750 literally infringe its '603 Patent, and Nashua has offered no persuasive reason for denying Ricoh the injunction it seeks. Therefore, the court hereby permanently enjoins Nashua

from manufacturing, using, or selling the infringing NT-50 and NT-6750 toner cartridges that infringe the '603 Patent.

B. Damages

Damages for patent infringement are to be awarded in an amount "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court." 28 U.S.C. § 284. Thus, Ricoh is entitled to recover damages to the extent of its incremental lost profits resulting from Nashua's infringing sales, or at least in an amount measured by a reasonable royalty. *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1580-81 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1022 (1990). Ricoh argues that several factors unique to this case effectively operate to equate the concepts of reasonable royalty and lost incremental profits, and that may or may not be so.

But, for the time being that issue need not be resolved. Having carefully reviewed the trial transcripts and the exhibits, particularly the testimony of Creighton Hoffman, Stephen Lakey, and Houssam El Jurdi, the court has determined that sufficient doubt arises from the record to warrant further proceedings prior to entering such an award. While Ricoh says its damages evidence is plain, straightforward, and reliable, which it may well be, Nashua presented a highly qualified expert accountant who leveled a number of criticisms, from an expert's vantage point, directly challenging both the reliability of Ricoh's factual evidence of its incremental costs (essentially Lakey's and

El Jurdi's testimony and the records they relied on) and questioning Ricoh's minimal allocation of incremental variable costs to the hypothetical production by Ricoh of the offending cartridges.

To be sure, Mr. Hoffman struck the court as being at least one part advocate for every part dispassionate expert, but still, his expertise was apparent, and some of his points do give the court pause. For example, Mr. Hoffman's suggestion that, at least theoretically, *some* additional indirect or overhead costs are properly allocable to Ricoh's production of the additional cartridges seems intuitively correct. He declined to give an opinion as to the exact nature and extent of those costs primarily because he thought he had insufficient financial data, and thought the data made available by Ricoh (and relied on in part by Lakey and El Jurdi) was incomplete and facially inaccurate. Whether properly allocable indirect variable costs are substantial or *de minimus*; whether the financial documents produced, relied on by Ricoh witnesses, and introduced into evidence establish the absence of substantial variable indirect costs, or are so incomplete and therefore unreliable as to call into question the reliability of the incremental costs asserted by Ricoh; and whether all incremental costs are reasonably, and reliably determinable (as an accounting matter), are but some of the questions which the record addresses but does not provide clear answers, at least not to the court.

The damages sought are sizeable and, given the court's lack of accounting expertise, coupled with its opinion that additional impartial expert analysis and opinion could well shed dispositive light on the damages issues, and, at an

absolute minimum, will assist the court in properly construing that evidence, the following orders are entered.

1. Further proceedings shall be held relative to damages;

2. A conference with counsel shall be scheduled at the earliest opportunity, at which the court will hear argument from counsel as to why it should not appoint, on its own motion, an expert accounting or forensic accounting witness, of its own selection, to review the testimony, exhibits, and relevant materials, and give opinion testimony as to: the adequacy, from an accounting perspective, of the financial documents, exhibits, and testimony provided by Ricoh to support a reliable incremental cost determination; the *de minimus* or substantial scope of any variable indirect or overhead costs properly considered in determining Ricoh's incremental costs; what Ricoh's incremental costs would likely be; and other relevant opinions.

While this step is perhaps unique, the court recognizes that its own expertise is lacking in a field that is or may be critical to a proper appreciation of the damages evidence presented and that defendant's expert's testimony, though informative, did not cover the court's interests in full detail, and, was not sufficiently impartial for the court to rely upon it exclusively.

Rather than make an economic decision important to both parties based upon an inadequate understanding or appreciation of relevant accounting realities, the court

deems it prudent to conduct further proceedings relative to damages. *See generally*, Fed. R. Ev. 706.

SO ORDERED.

s/ Steven J. McAuliffe
Steven J. McAuliffe
United States District Judge

March 31, 1997

APPENDIX C — PERMANENT INJUNCTION OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW HAMPSHIRE DATED AND FILED APRIL 16, 1997

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW HAMPSHIRE

Civil No. 94-163-M

Ricoh Company, Ltd.; Ricoh Corporation; and Ricoh Electronics, Inc.,

Plaintiffs,

v.

Nashua Corporation,

Defendant.

PERMANENT INJUNCTION

Defendant Nashua Corporation, having been found to have infringed plaintiffs' (Ricoh Company Ltd. and Ricoh Corporation ("Ricoh")) '603 Patent by manufacturing, making, using, distributing and selling its photocopier toner cartridges, model numbers NT-50 and NT-6750,

NOW THEN, IT IS HEREBY ORDERED THAT THE FOLLOWING INJUNCTION BE AND IT IS HEREBY ISSUED:

Appendix C

Defendant Nashua Corporation and all of its directors, officers, employees, agents, servants, representatives, parents, subsidiaries, affiliates, related companies, successors and assigns, and all persons and entities in active concert or participation with them who receive actual notice of this Order by personal service or otherwise (collectively "Nashua"), are hereby enjoined from and shall not make, use or sell in the United States, or enable, aid or cause others to make, use or sell in the United States, the replacement toner cartridges that Nashua sells under the model numbers NT-50 and NT-6750 (the "Nashua Infringing Cartridges").

SO ORDERED.

s/ Steven J. McAuliffe
Steven J. McAuliffe
United States District Judge

April 16, 1997

APPENDIX D — RELEVANT STATUTES AND REGULATIONS INVOLVED

35 U.S.C. § 101

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new a d useful improvement thereof, may obtain a patent therefor, subject to he conditions and requirements of this title.

35 U.S.C. § 120

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

35 U.S.C. § 121

If two or more independent and distinct inventions are claimed in one application, the Commissioner may require the application to be

restricted to one of the inventions. If the other invention is made the subject of a divisional application which complies with the requirements of section 120 of this title it shall be entitled to the benefit of the filing date of the original application. A patent issuing on an application with respect to which a requirement for restriction under this section has been made, or on an application filed as a result of such a requirement, shall not be used as a reference either in the Patent and Trademark Office or in the courts against a divisional application or against the original application or any patent issued on either of them, if the divisional application is filed before the issuance of the patent on the other application. If a divisional application is directed solely to subject matter described and claimed in the original application as filed, the Commissioner may dispense with signing and execution by the inventor. The validity of a patent shall not be questioned for failure of the Commissioner to require the application to be restricted to one invention.

35 U.S.C. § 122

Applications for patents shall be kept in confidence by the Patent and Trademark Office and no information concerning the same given without authority of the applicant or owner unless necessary to carry out the provisions of any Act of Congress or in such special

circumstances as may be determined by the Commissioner.

35 U.S.C. § 251

Whenever any patent is, through error without any deceptive intention, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent, the Commissioner shall, on the surrender of such patent and the payment of the fee required by law, reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent. No new matter shall be introduced into the application for reissue.

. . . .

No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

35 U.S.C. § 252

. . . .

A reissued patent shall not abridge or affect the right of any person or that person's successors

in business who, prior to the grant of a reissue, made, purchased, offered to sell, or used within the United States, or imported into the United States, anything patented by the reissued patent, to continue the use of, to offer to sell, or to sell to others to be used, offered for sale, or sold, the specific thing so made, purchased, offered for sale, used, or imported unless the making, using, offering for sale, or selling of such thing infringes a valid claim of the reissued patent which was in the original patent. The court before which such matter is in question may provide for the continued manufacture, use, offer for sale, or sale of the thing made, purchased, offered for sale, used, or imported as specified, or for the manufacture, use, offer for sale, or sale in the United States of which substantial preparation was made before the grant of the reissue, and the court may also provide for the continued practice of any process patented by the reissue that is practiced, or for the practice of which substantial preparation was made, before the grant of the reissue, to the extent and under such terms as the court deems equitable for the protection of investments made or business commenced before the grant of the reissue.

35 U.S.C. § 253

Whenever, without any deceptive intention, a claim of a patent is invalid the remaining claims shall not thereby be rendered invalid. A patentee, whether of the whole or any sectional interest

therein, may, on payment of the fee required by law, make disclaimer of any complete claim, stating therein the extent of his interest in such patent. Such disclaimer shall be in writing, and recorded in the Patent and Trademark Office; and it shall thereafter be considered as part of the original patent to the extent of the interest possessed by the disclaimant and by those claiming under him.

In like manner any patentee or applicant may disclaim or dedicate to the public the entire term, or any terminal part of the term, of the patent granted or to be granted.

37 C.F.R. § 1.11(b)

. . . .

(b) All reissue applications, all applications in which the Office has accepted a request to open the complete application to inspection by the public, and related papers in the application file, are open to inspection by the public, and copies may be furnished upon paying the fee therefor. The filing of reissue applications, other than continued prosecution applications under § 1.53(d) of reissue applications, will be announced in the Official Gazette. The announcement shall include at least the filing date, reissue application and original patent numbers, title, class and subclass, name of the

inventor, name of the owner of record, name of the attorney or agent of record, and examining group to which the reissue application is assigned.

. . . .

37 C.F.R. § 1.321(c)

. . .

(c) A terminal disclaimer, when filed to obviate a judicially created double patenting rejection in a patent application or in a reexamination proceeding, must:

(1) Comply with the provisions of paragraphs (b)(2) through (b)(4) of this section;

(2) Be signed in accordance with paragraph (b)(1) of this section if filed in a patent application or in accordance with paragraph (a)(1) of this section if filed in a reexamination proceeding; and

(3) Include a provision that any patent granted on that application or any patent subject to the reexamination proceeding shall be enforceable only for and during such period that said patent is commonly owned with the application or patent which formed the basis for the rejection.

APPENDIX E — LETTER FROM JAMES E. COCKFIELD TO SUZANNE MESZNER-ELTRICH DATED APRIL 7, 1987

LAHIVE & COCKFIELD

Counsellors At Law
Sixty State Street
Boston, Massachusetts 02109
Telephone (817) 227-7400

* * *

April 7, 1987

ATTORNEY CLIENT PRIVILEGE/
CONFIDENTIAL

Suzanne Meszner-Eltrich, Esq.
Nashua Corporation
44 Franklin Street
Nashua, New Hampshire 03061

Re: U.S. Ikesue et al. 4,611,730 (Ricoh)
Our Ref: NAC-164

Dear Suzanne:

This report is intended to set forth our impressions concerning a United States Ikesue et al Patent 4,611,730. This patent was recently called to Nashua's attention by Ricoh (see Paul Buffum's memo of March 30, 1987 to John Montesi).

Appendix E

Our investigation to-date has been limited to a review of the prosecution history of the Ikesue et al patent and the patent itself. While we may refine our opinion after we have had a chance to examine and evaluate relevant prior art items (copies of which are not yet available), we have seen enough to let us reach the following immediate conclusions:

1. While an argument certainly can be made to the effect that the patent is not infringed because main claim 1 calls for a certain "snugly-fitting" relationship between a removable gear ring and a toner body, a very real issue remains concerning possible liability arising under the doctrine of equivalence; and

2. This patent, in its present form, could be avoided by eliminating the feature which induced the Examiner to allow the case, i.e. the "removable" gear tooth member called for in main claim 1. To be on the safe side, it would also be prudent to eliminate the spiral indentation formed on the cartridge body, so as to dispose of another claim feature, i.e. the recited "spiral guide rib."

The Ikesue et al Patent Claims

The Ikesue et al patent 4,611,730 includes a single main claim 1 which governs the applicability of all twenty claims of this patent. This main claim 1 reads as follows:

Appendix E

1. A cartridge

for use with a toner replenishing device and

for detachably, sealingly and rotationally engaging within a cylindrical receptacle of the toner replenishing device for the feeding of toner from said cartridge into the toner replenishing device

comprising:

a main portion for containing therein a quantity of toner and main portion comprising

a substantially hollow container having

a longitundinal axis and

first and second oppositely-disposed ends,

said first end being closed,

said second end comprising a mouth portion,

said mouth portion

being integrally formed with said main portion and

comprising a substantially annular sidewall having an external circumferentail configuration suitable for rotatingly and sealingly engaging within the cylindrical receptacle of the toner replenishing device,

said substantially annular sidewall terminating in a plane perpendicular to said longitudinal axis,

said main portion being open at said mouth portion for the egress of toner,

said main portion further comprising

a spiral guide rib formed on the inner surface thereof and longitudinally extending therein,

said guide rib comprising

means for moving toner in said cartridge toward said mouth portion and out of said main portion in response to rotation of said cartridge; and

a gear-tooth bearing member

having, therein a substantially axially-disposed opening,

said gear-tooth bearing member

being removable from and mateable with said main portion

by inserting and removing said main portion into and from said axially-disposed opening of said gear-tooth-bearing member,

there being gear teeth formed on an outer circumference of said gear-tooth-bearing member,

said gear-tooth-bearing member being disposed circumferentially on an external surface of said main portion and in snugly-fitting relation therewith,

said snugly-fitting relation being sufficient to render said gear teeth effective to rotate said main portion in response to a driving force applied to said gear teeth.

The terminal portion of main claim 1 affirmatively recites that the gear ring be disposed in a "snugly fitting relation" operable to "render said gear teeth effective to rotate said main portion".

In the Nashua cartridges, there clearly is a very large question mark as to the ability of the drive ring to effect rotation of the cartridge simply by virtue of its telescoping relation with the cartridge, as evidenced by the fact that Nashua provides an interlocking drive key arrangement.

All this notwithstanding, there would clearly remain a substantial question of potential liability, contingent upon whether or not the doctrine of equivalence would be held applicable in this case.

We are reserving final judgment on the doctrine of equivalence issue until we have had a chance to further

examine the prior art considered by the Patent Office and conduct our own independent prior art investigation.

Modifications to Eliminate Present Consideration of Patent

When the Ikesue application was found to be allowable by the Examiner, he affirmatively indicated (Paper #5):

> "It was agreed that the removable drive ring of claim 19 [Patent Claim 1] defines over the art of record, however (the examiner noted that in his opinion) the feed rib and open end/circumferential configuration would not distinguish over the Johnston/Hoelschner combination. . . . ."

In light of this statement, it would seem reasonable to conclude that by eliminating a "removable" gear ring arrangement, the claim should be made non-applicable, at least insofar as the claim was perceived by the Examiner to be vested with any vitality.

This disabling of the removable quality of the ring should be fairly easy to accomplish by virtue of electronic or thermal welding, etc.

We would also strongly recommend that consideration also be given to eliminating the spiral indentation configuration formed on the cylindrical container wall.

Appendix E

With both the spiral indentation and removable aspect of the gear ring being absent, we do not see how claim 1 could be held by any Court to be applicable to the Nashua structure.

We would also add that with the two revisions noted above, we do not believe it likely that the case could even be reissued within two years of its original issue date, as permitted by the statute, so as to be broadened and thus a source of concern.

To complete your file, we enclose a copy of the patent and a copy of the prosecution history.

As soon as we have received copies of the cited prior art, we will examine them and forward them to you with such other comments as might seem appropriate at that time.

Very truly yours,

s/ James E. Cockfield
James E. Cockfield

JEC:fp
Enclosure

"FEDERAL EXPRESS"